

Draft Environmental Impact Report

Volume 2 Technical Appendices

ORD18-02, EIR18-0001
SCH# 2018082023

NEVADA COUNTY COMMERCIAL CANNABIS CULTIVATION ORDINANCE



Nevada County Community Development Agency
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Nevada City, CA 95959
(530) 265-9851

Technical Assistance by:
Kimley-Horn and Associates
555 Capitol Mall, Suite 300
Sacramento, CA 95814
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January 2019

List of Appendices

Appendix A: Notice of Preparation and Comments Received

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Appendix A:

Notice of Preparation and Comments Received

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Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Nevada County Commerical Cannabis Cultivation Ordinance

Lead Agency: County of Nevada Contact Person: Brian Foss, Planning Director
Mailing Address: 950 Maidu Avenue Phone: (530) 265-1222
City: Nevada City Zip: 95959 County: Nevada

Project Location: County: Unincorporated Nevada County City/Nearest Community: All unincorporated Nevada County
Cross Streets: N/A Zip Code: N/A

Longitude/Latitude (degrees, minutes and seconds): _____ ° _____ ' _____ " N / _____ ° _____ ' _____ " W Total Acres: _____
Assessor's Parcel No.: N/A Section: N/A Twp.: N/A Range: N/A Base: N/A
Within 2 Miles: State Hwy #: N/A Waterways: N/A
Airports: N/A Railways: N/A Schools: N/A

Document Type:

CEQA: NOP Draft EIR NEPA: NOI Other: Joint Document
 Early Cons Supplement/Subsequent EIR EA Final Document
 Neg Dec (Prior SCH No.) _____ Draft EIS Other: _____
 Mit Neg Dec Other: _____

Governmental Planning & Research

AUG 10 2018

STATE CLEARINGHOUSE

Local Action Type:

General Plan Update Specific Plan Rezone Annexation
 General Plan Amendment Master Plan Prezone Redevelopment
 General Plan Element Planned Unit Development Use Permit Coastal Permit
 Community Plan Site Plan Land Division (Subdivision, etc.) Other: Ordinance

Development Type:

Residential: Units _____ Acres _____ Transportation: Type _____
 Office: Sq.ft. _____ Acres _____ Employees _____ Mining: Mineral _____
 Commercial: Sq.ft. _____ Acres _____ Employees _____ Power: Type _____ MW _____
 Industrial: Sq.ft. _____ Acres _____ Employees _____ Waste Treatment: Type _____ MGD _____
 Educational: _____ Hazardous Waste: Type _____
 Recreational: _____ Other: Commercial Cannabis Cultivation Ordinance
 Water Facilities: Type _____ MGD _____

Project Issues Discussed in Document:

Aesthetic/Visual Fiscal Recreation/Parks Vegetation
 Agricultural Land Flood Plain/Flooding Schools/Universities Water Quality
 Air Quality Forest Land/Fire Hazard Septic Systems Water Supply/Groundwater
 Archeological/Historical Geologic/Seismic Sewer Capacity Wetland/Riparian
 Biological Resources Minerals Soil Erosion/Compaction/Grading Growth Inducement
 Coastal Zone Noise Solid Waste Land Use
 Drainage/Absorption Population/Housing Balance Toxic/Hazardous Cumulative Effects
 Economic/Jobs Public Services/Facilities Traffic/Circulation Other: _____

Present Land Use/Zoning/General Plan Designation:

R-1, R-2, R-3, R-A, AG, AE, FR, and TPZ zones for personal cannabis use, and AG, AE, and FR zones for commercial cultivation

Project Description: (please use a separate page if necessary)

The Nevada County Commercial Cannabis Cultivation Ordinance is intended to detail County regulations consistent with state law to enable a structured and logical management procedure for the cultivation of cannabis within all unincorporated areas within the County. Commercial cannabis cultivation would be strictly limited for medical purposes. The proposed project defines and provides for the regulation for the personal use of cannabis and commercial cannabis cultivation within unincorporated County land. The proposed project would render indoor, mixed-light, and outdoor cultivation of cannabis, on any parcel or premises not in conformance with or in violation of the provisions of the proposed project and/or state law, as a public nuisance that that may be abated by any means available by law.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X". If you have already sent your document to the agency please denote that with an "S".

- | | |
|---|--|
| <input checked="" type="checkbox"/> Air Resources Board | <input type="checkbox"/> Office of Historic Preservation |
| <input type="checkbox"/> Boating & Waterways, Department of | <input type="checkbox"/> Office of Public School Construction |
| <input type="checkbox"/> California Emergency Management Agency | <input checked="" type="checkbox"/> Parks & Recreation, Department of |
| <input checked="" type="checkbox"/> California Highway Patrol | <input checked="" type="checkbox"/> Pesticide Regulation, Department of |
| <input checked="" type="checkbox"/> Caltrans District #3 | <input type="checkbox"/> Public Utilities Commission |
| <input type="checkbox"/> Caltrans Division of Aeronautics | <input checked="" type="checkbox"/> Regional WQCB #5 |
| <input type="checkbox"/> Caltrans Planning | <input checked="" type="checkbox"/> Resources Agency |
| <input type="checkbox"/> Central Valley Flood Protection Board | <input type="checkbox"/> Resources Recycling and Recovery, Department of |
| <input type="checkbox"/> Coachella Valley Mtns. Conservancy | <input type="checkbox"/> S.F. Bay Conservation & Development Comm. |
| <input type="checkbox"/> Coastal Commission | <input type="checkbox"/> San Gabriel & Lower L.A. Rivers & Mtns. Conservancy |
| <input type="checkbox"/> Colorado River Board | <input type="checkbox"/> San Joaquin River Conservancy |
| <input type="checkbox"/> Conservation, Department of | <input type="checkbox"/> Santa Monica Mtns. Conservancy |
| <input type="checkbox"/> Corrections, Department of | <input type="checkbox"/> State Lands Commission |
| <input type="checkbox"/> Delta Protection Commission | <input type="checkbox"/> SWRCB: Clean Water Grants |
| <input type="checkbox"/> Education, Department of | <input checked="" type="checkbox"/> SWRCB: Water Quality |
| <input type="checkbox"/> Energy Commission | <input type="checkbox"/> SWRCB: Water Rights |
| <input checked="" type="checkbox"/> Fish & Game Region #2 | <input type="checkbox"/> Tahoe Regional Planning Agency |
| <input checked="" type="checkbox"/> Food & Agriculture, Department of | <input type="checkbox"/> Toxic Substances Control, Department of |
| <input checked="" type="checkbox"/> Forestry and Fire Protection, Department of | <input type="checkbox"/> Water Resources, Department of |
| <input type="checkbox"/> General Services, Department of | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Health Services, Department of | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Housing & Community Development | |
| <input checked="" type="checkbox"/> Native American Heritage Commission | |

Local Public Review Period (to be filled in by lead agency)

Starting Date August 10, 2018 Ending Date September 10, 2018

Lead Agency (Complete if applicable):

Consulting Firm: _____ Applicant: _____
 Address: _____ Address: _____
 City/State/Zip: _____ City/State/Zip: _____
 Contact: _____ Phone: _____
 Phone: _____

Signature of Lead Agency Representative:  **Date:** 8/3/18

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.



**COUNTY OF NEVADA
COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT**

**950 MAIDU AVENUE, SUITE 170, NEVADA CITY, CA 95959-8617
(530) 265-1222 FAX (530) 265-9851 <http://mynevadacounty.com>**

Sean Powers
Community Development Agency Director

Brian Foss
Planning Director

NOTICE OF PREPARATION

Date: August 10, 2018

To: Responsible Agencies, Organizations, and Interested Parties

From: Nevada County

Contact: Mr. Brian Foss
Planning Director
Nevada County Planning Department
950 Maidu Avenue
Nevada City, California 95959

Subject: **Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report**

In discharging its duties under Section 15021 of the State California Environmental Quality Act (CEQA) Guidelines, the County of Nevada (County), as lead agency, intends to prepare an Environmental Impact Report (EIR), consistent with CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 1500, et seq.), that address the potential physical environmental effects of the Nevada County Commercial Cannabis Cultivation Ordinance Project (proposed project). In accordance with State CEQA Guidelines Section 15082, the County has prepared this Notice of Preparation (NOP) to provide responsible agencies and other interested parties with sufficient information describing the proposal and its potential environmental effects to meaningfully respond.

As specified by the State CEQA Guidelines, the NOP will be circulated for a 30-day review period. The County requests and welcomes public input and input from other stakeholders and public agencies during this review. If no response or request for additional time is received from any responsible agency by the end of the review period, the lead agency may presume that responsible agencies have no response.

Written and/or email comments in response to this NOP should be provided to the County at the earliest possible date but must be received by 5:00 p.m. on September 10, 2018. Please include, "Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments" in the subject line and send or email all comments to:

**Brian Foss, Planning Director
Planning Department
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
Telephone: (530) 265-1222, Fax: (530) 265-9851
Email: planning@co.nevada.ca.us**

The Notice of Preparation comment period closes at 5:00 p.m. on **September 10, 2018**

Agencies that will need to consider the EIR when deciding whether to issue permits or other approvals for the Nevada County Cannabis Ordinance (proposed project) should provide the name of a contact person. Comments provided by email should include “Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comment” in the subject line, and the name and mailing address of the commenter in the body of comment.

Public Scoping Meeting: The County will conduct two scoping meetings during the 30-day public review period of this NOP. The schedule for the scoping meetings is as follows:

August 22, 2018
1:30 p.m. – 3:00 p.m.
The Foothills Event Center
400 Idaho Maryland Road
Grass Valley, CA 95945

August 22, 2018
6:00 p.m. – 7:30 p.m.
Bear River High School Multi-Purpose Rm.
11130 Magnolia Road
Grass Valley, CA 95949

PROJECT LOCATION AND ENVIRONMENTAL SETTING

The proposed project is located in the unincorporated areas of Nevada County (County). The County is bounded by Sierra County and Yuba County on the north, Yuba County on the west, Placer County on the south, and the state of Nevada on the east. *Figure 1: Regional Location Map* shows Nevada County in relation to its position within the State of California, and *Figure 2: Vicinity Map*, shows Nevada County in relation to surrounding counties, major cities, and major roadways. Nevada County’s total land area is 958 square miles, of which approximately 70% is privately owned and approximately 30% is public lands. Public lands are managed by the U.S. Forest Service (USFS) in the Tahoe National Forest (TNF), other public lands under the control of the Bureau of Land Management (BLM).

Development within Nevada County consists of a mixed land use pattern and includes residential, commercial, industrial, agricultural, and public uses. Nevada County consists of numerous urbanized areas as well as rural residential, commercial, industrial, open space, and many areas used for agriculture. There are three incorporated cities within the County including Grass Valley, Nevada City, and Truckee. The proposed Nevada County Commercial Cannabis Cultivation Ordinance would not apply to these incorporated areas.

The geography of Nevada County is comprised of low lying valleys to mountainous areas. Nevada County is part of the Sierra Nevada Range, a geologic block approximately 400 miles long and 80 miles wide which extends in a north-south band along the eastern portion of California. The western third of the County is comprised of rolling foothills which form a transition between the low-lying Sacramento Valley on the west and the mountains to the east. The eastern two-thirds of the County is comprised of the steep terrain and exposed granite of the Sierra Nevada range and is generally comprised of volcanic and granitic formations. Geologically, the County can be divided into three very broad geologic groups, including the Western Foothills generally from the Yuba County border to just northeast of the Grass Valley/Nevada City area; the Central Portion, which extends northeast of the Grass Valley/Nevada City area to the upper mountainous area and the Eastern Portion which runs through the high Sierra to the Nevada state line

and is generally comprised of volcanic and granitic formations. Accordingly, elevations within the County vary substantial and range from approximately 300 feet above mean sea level (amsl) in the west to 9,200 amsl in the mountains. Nevada County is characterized by many areas with scenic qualities including mountain views, sweeping valleys, the Yuba River and tributaries, Old Highway 40, and numerous other locations. Because of the elevation changes and associated topographic features, the County experiences high seasonal fluctuations in rainfall and snowfall. Rainfall typically peaks between November and February, with snowfall in the mountains and rain in the low-lying areas. Snowmelt from the mountains typically occurs between April and June, which results in highly variable annual water flows through the streams and rivers.

Major Circulation routes within the County includes US Interstate 80 (US-80), which generally trends east and west along portion of the southern County border, and State Highway 20 (SH-20), State Highway (SH 49), and State Highway 20 (SH-20), and State Highway 89 (SH-89). These highways are the major thoroughfares providing north and south and east and west access through the balance of the County. Due to the larger number of cities and communities and overall development patterns SH-20 and SH-49 are located in the westerly portions of the County. SH-89 provides north and south access through the Sierra Nevada Mountains in the eastern portion of the County via the Town of Truckee.

PROJECT BACKGROUND

It is estimated there are approximately 3,500 commercial cannabis cultivation operations within the County that are unauthorized and continue operate illegally with little to no oversight. In part, the proposed ordinance is intended to reduce the persistence of illegal commercial cannabis cultivation through the introduction of regulations that are intended reduce the environmental effects and impacts to the surrounding County environment, downstream locations, and residents of the surrounding areas.

On April 11, 2017, the Nevada County Board of Supervisors (Board) began the process of gathering community input to determine the direction for long-term cannabis regulations. The Board formed the Community Advisory Group (CAG) consisting of stakeholders and community members. Between May 23, 2017 and December 19, 2017, the CAG held ten public meetings to give residents and other interested individuals and groups an opportunity to provide input for the County's plans for long-term cannabis cultivation regulations.

During the CAG process, significant changes occurred with State regulations. Building from the passage of Proposition 64 in the November 2016 election, revised emergency regulations were released by the State in June 2017 (SB-94) and November 2017 (Emergency Medicinal and Adult-Use Cannabis Regulations). On January 9, 2018, the Board received the CAG recommendation report but did not take any significant cannabis policy actions at that time. The report contained a substantial amount of information and input, which the Board wanted to completely review and follow up with additional community discussion. Additional Board meetings were held in the first quarter of 2018 and in May 2018 the Board directed County staff to initiate the process for preparing an Environmental Impact Report (EIR).

PROJECT DESCRIPTION

The Nevada County Commercial Cannabis Cultivation Ordinance is intended to detail County regulations consistent with state law to enable a structured and logical management procedure for the cultivation of

cannabis within all unincorporated areas within the County. Commercial cannabis cultivation would be strictly limited for medical purposes. An unincorporated area is defined as an area or region of land that is not governed by a local municipal corporation, such as a city. The proposed project defines and provides for the regulation for the personal use of cannabis and commercial cannabis cultivation within unincorporated County land. The proposed project is a substantial overhaul and comprehensive update to the County's existing cannabis regulations and is being proposed, in part, as an attempt to regulate the cultivation and reduce existing environmental effects of illegal cultivation operations. Adoption of the proposed project would render indoor, mixed-light, and outdoor cultivation of cannabis, on any parcel or premises in an area or in a quantity greater than as provided by the proposed project, or in any other way not in conformance with or in violation of the provisions of the proposed project and/or state law, as a public nuisance that may be abated by any means available by law. Indoor, Mixed-Light, and Outdoor Cultivation are defined as follows:

Indoor or Indoors– Indoor cultivation means cultivation using exclusively artificial light within a detached fully enclosed and secure accessory structure using artificial light at a rate above twenty-five watts per square foot and that complies with the California Building Code (Title 24, California Code of Regulations) for that specific occupancy type, as adopted by the County of Nevada, except for structures that are exempt from the requirement to obtain a building permit under the Nevada County Land Use and Development Code. For purposes of Personal Use only, “indoor” or indoors” shall also include Cultivation inside a private residence or attached garage, but not in areas inhabited by humans, including, but not limited to bedrooms and kitchens.

Mixed-Light- Mixed-Light means the cultivation of mature or immature cannabis plants in an accessory structure permitted in compliance with local building codes and permitted specifically for cannabis cultivation using light deprivation and/or one of the artificial lighting models described below:

Mixed-Light Tier 1: The use of artificial light at a rate of six watts per square foot or less;

Mixed-Light Tier 2: The use of artificial light at a rate above six watts and below or equal to twenty watts per square foot. Mixed-light cultivation must take place in an accessory structure permitted in compliance with local building codes and permitted specifically for cannabis cultivation.

Outdoor or Outdoors -Outdoor cultivation means cultivation of cannabis in any location that is not “indoors” not “mixed-light” and which is cultivated without the use of any artificial light at any time.

The proposed ordinance has been written, in part, to remedy existing issues including environmental degradation to water quality, creation of objectionable odors, land use conflicts, and impacts to the visual character of the County. The ordinance establishes certain requirements for discretionary land use permits and the annual permitting process. Under the proposed project there will be a three-tier system for 1) personal use; 2) commercial use, and 3) non-remuneration cultivation use. The regulations for cultivation of cannabis have been developed to be consistent with requirements of other commercial activities as well as consistent with state law. Under the proposed project cannabis cultivation would be managed using the policies and regulations within the ordinance. Based on these and other factors, the general intent of the proposed project is to result in:

- Removing or reducing cannabis cultivation in residential areas and allowing increased cannabis cultivation in the AG, AE and FR zones, including commercial cultivation for medical purposes.
- Eliminating the existing set of regulations intended for personal and/or cooperative cannabis cultivation and replacing these regulations with a three-tier system based on the nature of the cultivation activity at issue (personal, commercial or non-remuneration cultivation), to align with current State law.
- Adding requirements for certain discretionary land use permits (for the property on which cultivation would occur) and an annual regulatory permit (for the cannabis operation). This facilitates issuance of local authorizations and align cannabis regulations with regulations applicable to other commercial activities.
- Updating definitions and other technical requirements to align with current State law and addressing environmental impacts related to cultivation.
- Revising and increasing penalties for failing to comply with County cannabis regulations including increased fines, permit revocations and criminal penalties.

The proposed project would allow for the cultivation of cannabis for personal use within eight zoning classifications. Cultivation for personal use would be allowed in four residential zones including:

- R-1 (Single Family);
- R-2 (Medium Density);
- R-3 (High Density);
- R-A (Residential Agriculture);

And four non-residential zones including:

- General Agricultural (AG);
- Agriculture Exclusive (AE);
- Forest (FR); and
- the Timber Production Zone (TPZ).

Commercial cannabis cultivation would be prohibited in the following zones:

- R1, R2, and, R3 (High Density);
- RA (Residential Designation) zones; and,
- TPZ (Timber Production Zone).

Commercial Cannabis Cultivation would be allowed in the following zones:

- AG (General Agriculture);
- AE (Agriculture Exclusive); and,
- FR (Forest) zones.

Notice of Preparation

Table 1-1: Cannabis Cultivation for Personal Use, below provides a breakdown of the allowable number of plants based on zoning, parcel acreage, and cultivation method. Cultivation in all other zones would not be a permitted use.

Table 1-1: Cannabis Cultivation for Personal Use				
Zoning	Parcel Acreage	Cultivation Method		
		<i>Indoor</i>	<i>Mixed-Light</i>	<i>Outdoor</i>
R1 R2 R3 RA (Residential Designation)	Parcel of Any Size	Maximum of six plants, mature or immature.	Cultivation is Prohibited	Cultivation is Prohibited
R-A (Rural and Estate Designation)	5.00 Acres or greater	Maximum of Six Plants, mature or immature		
AG AE FR TPZ	1.99 or less	Maximum of Six Plants, mature or immature	Cultivation is Prohibited	Cultivation is Prohibited
	Parcels 2.00 acres or greater	Maximum of Six Plants, mature or immature		

Source: Nevada County, 2018
 Abbreviations: R-1 (Single Family); R-2 (Medium Density); R-3 (High Density); R-A (Residential Agriculture); AG (General Agriculture), AE (Agriculture Exclusive), FR (Forest), TPZ (Timber Production Zone).

Table 1-2: Cannabis Cultivation for Commercial Use, below, provides a breakdown of the of the allowable square feet of allowable plants canopy based on zoning, parcel acreage, and cultivation method.

Table 1-2: Cannabis Cultivation for Commercial Use				
Zone	Parcel acre	Cultivation Method		
		<i>Indoor</i>	<i>Mixed-Light</i>	<i>Outdoor</i>
R1 R2 R3 RA (Regardless of Zone Designation)	Parcel of Any acreage	Commercial Cultivation is Prohibited		
AG AE FR	2.0 acres or less	Commercial Cultivation is Prohibited		
	Parcels 2.00 acres to 4.99 acre	Maximum of 500 sf canopy	Commercial Cultivation is Prohibited	
	Parcels 5.00 acres to 9.99 acres	Up to a maximum of 2,500 sf of canopy for any method or combination thereof.		
	Parcels 10.00 acres to 19.99 acres	Up to a maximum of 5,000 sf of canopy for any method or combination thereof.		
	Parcels 20 acres or greater	Up to a maximum of 10,000 sf of canopy for any method or combination thereof.		

Source: Nevada County, 2018
 Abbreviations: R-1 (Single Family); R-2 (Medium Density); R-3 (High Density); R-A (Residential Agriculture); AG (General Agriculture), AE (Agriculture Exclusive), FR (Forest), TPZ (Timber Production Zone).

According to the County's existing zoning designation, the purpose of the eight zones in which cannabis cultivation would be allowed are as follows:

- RA (Residential Agricultural). The RA District establishes provisions for low density single-family dwellings, as well as other dwelling unit types in keeping with the rural character of the area, at densities equivalent to 1.5-acre minimum parcel size, or 3-acre minimum parcel size where neither a public water nor public sewer system is available. Within the Residential and Estate General Plan designations, the single-family dwelling is of primary importance and agricultural uses are Secondary. Within Rural General Plan designations, agricultural operations and natural resource related uses and residential uses are of equal importance.
- R1 (Single-Family). The R1 District implements the General Plan's Urban Single-Family designation. It is intended to provide for single-family dwellings, as well as other dwelling unit types, at densities of up to 4 dwelling units per acre.
- R2 (Medium Density). The R2 District implements the General Plan's Urban Medium Density Designation and provides for moderate density multiple-family housing, as well as other dwelling unit types. Densities of up to 6 dwelling units per acre are permitted. This District is appropriate for the development of affordable housing through clustering of residences or other design techniques.
- R3 (High Density). The R3 District implements the General Plan's Urban High-Density Designation and provides for high density multiple-family housing, as well as other dwelling unit types. Densities of up to 20 dwelling units per acre within incorporated area's spheres of influence and 15 units per acre elsewhere are permitted unless otherwise designated on the official zoning map.
- AG (General Agricultural). The AG District provides areas for farming, ranching, agricultural support facilities and services, low intensity uses, and open space. It is consistent with all agricultural-oriented General Plan land use designations, as well as those designations that allow for more intensive uses. Agricultural uses are of primary importance and all other uses are secondary.
- AE (Agricultural Exclusive). The AE District provides for the preservation and protection of important agricultural lands that are being used for commercial agricultural production. It is consistent with all agricultural-oriented General Plan land use designations, as well as those designations that allow for more intensive uses. Agricultural uses are of primary importance and all other uses determined to be incompatible with agriculture shall not be permitted.
- FR (Forest). The FR District provides areas for the protection, production and management of timber, timber support uses, including but not limited to equipment storage and temporary offices low intensity recreational uses, and open space (Nevada County, 2017).
- TPZ (Timberland Production Zone). The TPZ District provides for prudent and responsible forest resource management and the continued use of timberlands for the production of timber products and compatible uses. It is established in conformance with the Forest Taxation Reform Act of 1976 and all requirements and restrictions therein shall apply. It is intended to be a district where the land is devoted to the growing and harvesting of timber and for such compatible uses that do not significantly detract from the use of the land for the growing and harvesting of timber.

The existing County Zoning Designation are shown in *Figure - 3a: Western Nevada County Zoning Districts (northern portion)*, *Figure - 3b: Western Nevada County District Zoning (southern portion)*, and

Figure - 3c: Eastern Nevada County Zoning Districts. These maps reflect the existing zoning designations within the County and show the associated locations and zones that cultivation would be authorized.

CULTIVATION AREA REQUIREMENTS

In addition to the zoning restrictions shown above, the proposed project also includes elements and requirements that involve all cultivation areas. Additional details and requirements for persons engaging in cultivation for personal use of cannabis and commercial cannabis cultivation are further defined, respectively, in Sections 1.4 and 1.5 of the proposed ordinance. These regulations are in place to provide a defined process and to detail requirements related to cannabis cultivation. In summary, these regulations require:

- Adequate site security;
- That cultivation not adversely affect the health, safety, or general welfare of others;
- That cultivation conforms to all County, and state building, fire, and electrical codes;
- That cultivators obtain all required permits;
- That cultivation conforms to all other applicable County ordinances including but not limited to nighttime lighting requirements and generation of noise;
- That the operator must be the legal owner of the parcel or property;
- That cultivation conforms to hazardous materials requirements and laws; and
- That a properly permitted water source and wastewater disposal system is used.

Cultivation regulations specifically related to commercial cannabis cultivation, in addition to being allowed cultivation for six plants for personal use and the zoning restrictions shown in Table 1-2 are summarized but not limited to the following. Cultivation may occur on a vacant parcel adjacent to a parcel with a legally permitted and occupied residence under the same ownership; possession of all applicable commercial cannabis licenses from the County and state; transportation must be in accordance with County and state law and licensing requirements; a maximum of three cultivation permits and financial interested in three commercial cannabis activities; and qualified care givers must conform to cultivation area limitations.

Accessory Structures

Accessory structures would be allowed provided the accessory structure meets certain criteria including but not limited to: the structure is properly permitted (i.e. grading, building, electrical, plumbing, etc.); it conforms to all setback requirements; greenhouses use glass or polycarbonate; roofs are properly supported; and all indoor or mixed-light cultivation areas are on the same parcel as the private residence, the structure must be properly secured, and the owner must allow access for required inspections. Unless specifically enumerated in the ordinance, all other cannabis related activities are prohibited within the County.

Required Permits

The permitting of commercial and non-remuneration cannabis activities is defined by Section 1.6 of the ordinance specifically lists the permitting requirements of locations that would be engaged in Commercial and Non-Remuneration Cannabis Activities including obtaining a land use permit, either an Administrative

Development Permit (ADP) or Conditional Use Permit (CUP), and an Annual Cannabis Permit (ACP). A summary of these permits is provided in *Table 1-3: Required Permits for Commercial Cannabis Cultivation*.

Table 1-3: Required Permits for Commercial Cannabis Cultivation		
Administrative Development Permit	Conditional Use Permit	Annual Cannabis Permit
An ADP would be required for cultivation activities with canopy sizes up to a total of 2,500 square feet for indoor, mixed-light, or outdoor cultivation. An ADP would only be issued to the legal owner of the parcel of premises.	A CUP would be required for all cultivation canopies between 2,501-to 10,000 square feet for indoor, mixed-light, or outdoor cultivation. A CUP would only be issued to the legal owner of the parcel of premises.	An ACP would be issued to the individual or entity engaging in the commercial cannabis activity or non-remuneration cultivation and must be renewed annually.

Sensitive Sites

Cultivation would be regulated such that it would not be allowed within 1,000 feet of sensitive sites. Current State law requires a setback from schools, daycare centers, and youth centers. Accordingly, the ordinance defines a sensitive site to include, a school church, park, child or day care center, or youth oriented facility. A youth oriented facility is defined as any facility that caters to or provides services primarily intended for minors, or the individuals who regularly patronize, congregate or assemble at the establishments are predominantly minors). The ordinance includes provisions for the consideration of locating a sensitive use in proximity to a cultivation area and mechanism for disseminating information to the operators.

OTHER ORDINANCE ELEMENTS

The proposed project also includes regulations pertaining to continued enforcement and monitoring of cannabis cultivation areas. Although these portions of the ordinance are related to administrative actions taken by the County, which would not necessarily have the potential to result in environmental impacts by themselves, they do provide a mechanism by which environmental regulations may be enforced and are tools the County may use to discourage cultivation activities from harming the environment. In general, elements include: the denial or revocation of licenses and remedies; the ability to issue notices to abate unlawful cannabis activities and associated processes; an administrative review process; create liability for costs; define enforcement, accounting, and an associated hearing process; and allow for the assessment of liens and revocations.

PROJECT OBJECTIVES

The overall purpose of the proposed project is to adopt a County wide ordinance pursuant to the authority granted by Article XI, Section 7 of the California Constitution, Health and Safety Code Section 11362.83, and Government Code Section 25845 to regulate the production of medical cannabis within the County

boundaries. The objectives within the scope of the proposed adoption of the ordinance and regulations are to do the following:

- Provide a mechanism for the regulation of a legal commercial cannabis cultivation industry within the unincorporated county;
- Reduce the level of nuisance that existing commercial cannabis cultivation represents to adjacent areas of existing growers;
- Encourage existing cannabis businesses to secure a license to operate in compliance with County and state regulations;
- Reduce the adverse effects of commercial cannabis cultivation on the environment through implementation of these regulations and permitting process;
- Adopt an ordinance that defines specific zones within the County in which production of commercial cannabis cultivation will be allowed;
- Adopt an ordinance that defines, within the specific zones, the total area of commercial cannabis cultivation that will be allowed;
- Reduce the effects of potential adverse effects of commercial cannabis cultivation on sensitive receptors by ensuring compatibility with existing surrounding land uses;
- To align cannabis regulations with regulations applicable to other commercial activities.

REQUIRED APPROVALS

As discussed above, the County is the Lead Agency for the proposed project, consistent with State CEQA Guidelines Section 15065(b). This EIR will be used by the County to evaluate the potential environmental impacts that could result from implementation of the proposed project, and, if needed, modify the proposed project or propose and adopt certain mitigation measures in an attempt to reduce, minimize, or eliminate any impacts. If it is determined that an impact cannot be reduced to less than significant and no feasible mitigation exists to reduce that impact, the County, as Lead Agency, can still approve the proposed project; however, a statement of overriding considerations for any unavoidable, significant environmental impacts, must be written. The statement of overriding consideration, shall state the specific reasons to support the proposed action based on the information presented in the DEIR and/or other information in the record. Pursuant to State CEQA Guidelines Section 15093, the decision-makers must "...balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposal project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered 'acceptable.'" Based on the above CEQA guidance, and in light of the record as a whole, if the statement of overriding consideration is acceptable, the County Board of Supervisors will consider adoption of the proposed project after certification of the Final EIR by the County Planning Commission.

In addition to consideration by the County Planning Commission and County Board of Supervisors, the proposed project also will be considered by other agencies as the proposed project will require certain discretionary actions and approvals. Future activities related to the proposed project will require consideration and approval from a variety of agencies, who are considered CEQA responsible or trustee agencies. While the responsible and trustee agencies may vary, depending upon the location of activities

that would result from implementation of the proposed project as well as environmental resources potentially effected, a preliminary list of potential responsible and trustee agencies is provided below.

Federal

- *United States Fish and Wildlife Service*
- United States Army Corps of Engineers (USACE)

State

- California Department of Fish and Wildlife (CDFW)
 - Section 1600 et seq. permits (Streambed Alteration Agreements)
 - Section 2081 Permit (State-listed endangered species)
- Central Valley Regional Water Quality Control Board (Central Valley RWQCB),
 - National Pollutant Discharge Elimination System (NPDES) Construction General Permit
 - General Construction Stormwater Permit (Preparation of a SWPPP)
 - Regional Water Quality Certification (401 Permit)
- California Department of Transportation
- Bureau of Medical Marijuana Regulation
- Department of Consumer Affairs
- Department of Food and Agriculture
- Department of Pesticide Regulation
- Board of Equalization
- Franchise Tax Board
- Department of Justice
- Department of Public Health
- Industrial Welfare Commission
- State Board of Forestry
- The Division of Occupational Safety and Health
- California Environmental Protection Agency

Local

- Nevada Irrigation District
- Northern Sierra Air Quality Management District
- Nevada County
 - Department of Agriculture
 - Building Department
 - Department of Code Compliance
 - Department of Environmental Health
 - Department of Farm Advisor
 - Planning Department
 - Department of Public Works

POTENTIAL ENVIRONMENTAL EFFECTS

Any changes to the project area is likely to have environmental impacts. The EIR will consider the potential for direct, indirect, and cumulative effects for implementation of the ordinance. The environmental factors checked below would be potentially affected by the proposed project and will be further evaluated in the EIR.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems
- Energy Conservation

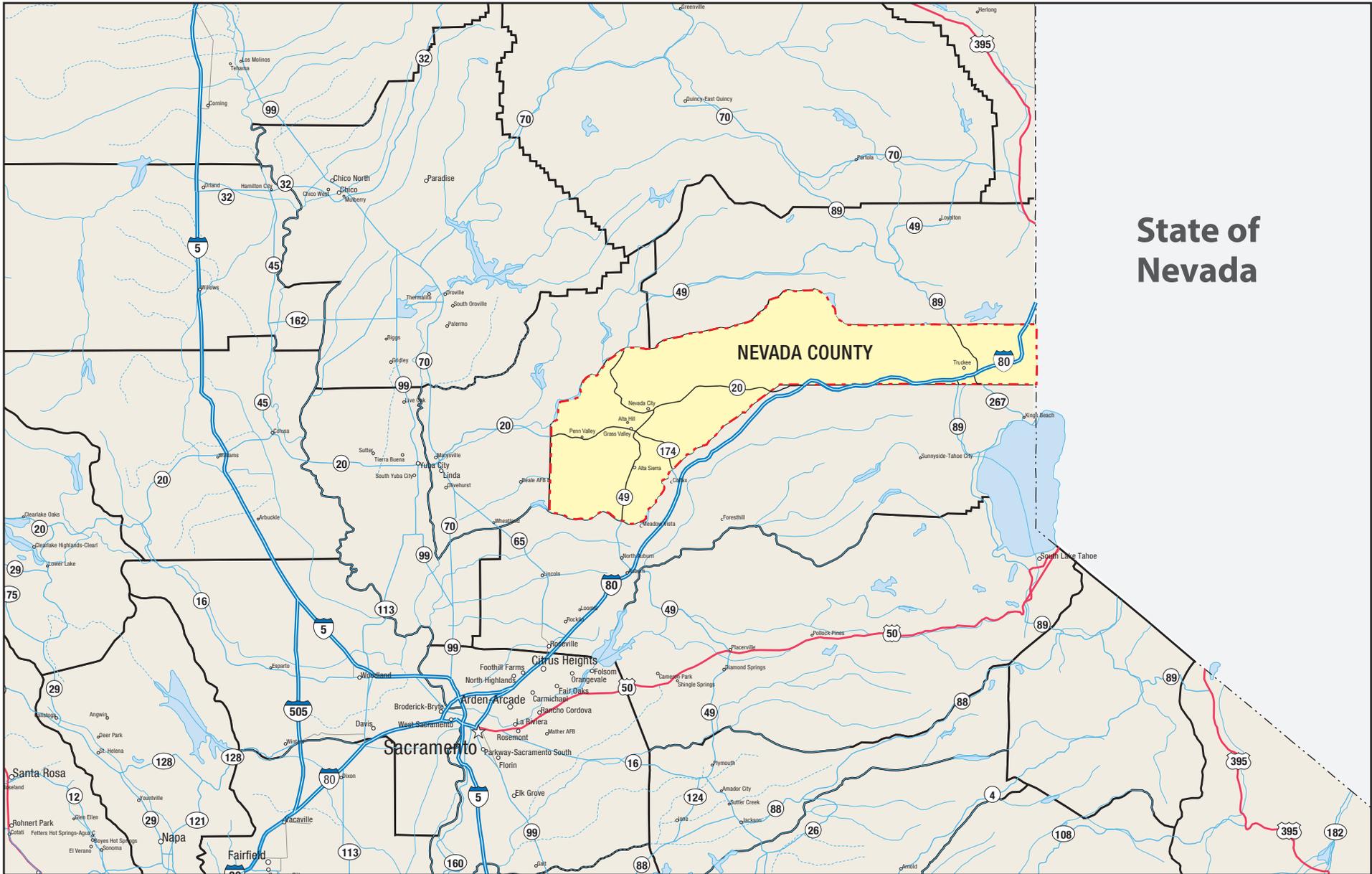
ALTERNATIVES

In accordance with Section 15126.6 of the State CEQA Guidelines, an EIR must “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” As required by CEQA, the EIR will evaluate a No Project Alternative. Aside from the No Project Alternative, the County has not yet determined what additional alternatives to the project will be evaluated in the EIR but has developed two potential alternatives including the Reduced Cultivation Area Alternative, and the Increased Cultivation Area Alternative. During the public meetings for this NOP, the County will be seeking additional input from stakeholders regarding the final reasonable range of alternatives that will be identified during this environmental review process. Once selected, the alternatives will be analyzed at a qualitative level of detail in the Draft EIR for comparison against the impacts identified for the project, consistent with the requirements of CEQA.



Nevada County Commerical Cannabis Ordinance EIR
FIGURE 1: Regional Location Map

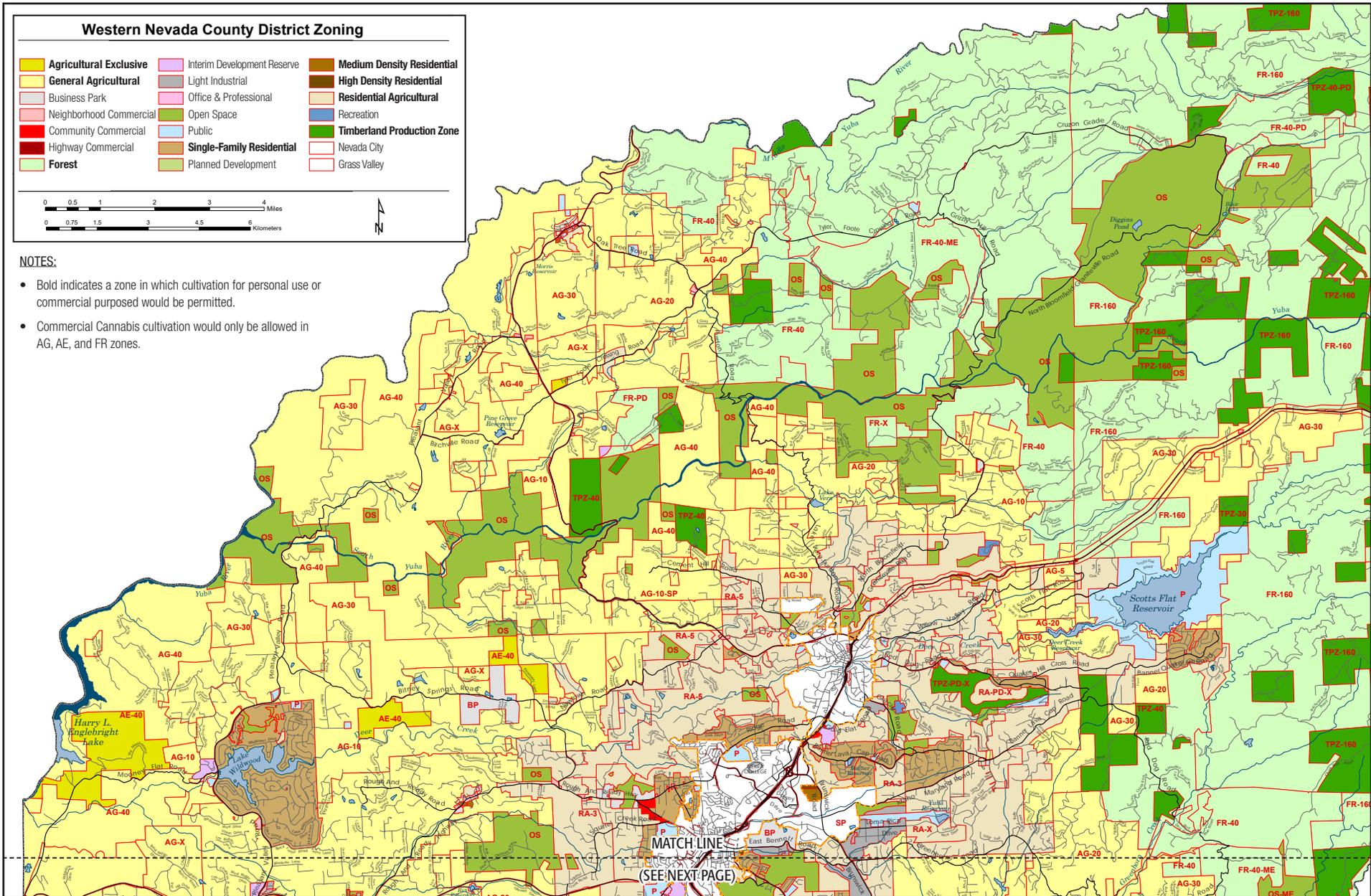




**State of
Nevada**

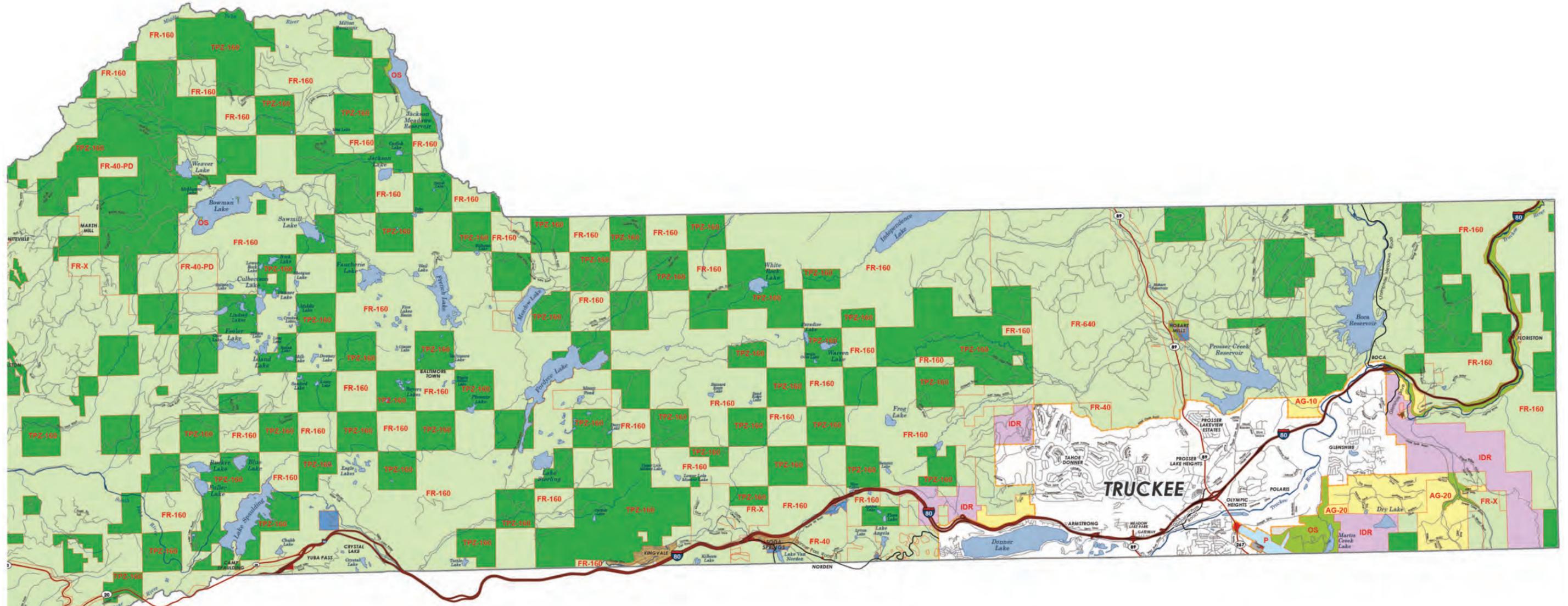


Nevada County Commerical Cannabis Ordinance EIR
FIGURE 2: Project Vicinity Map



Nevada County Commerical Cannabis Ordinance EIR
FIGURE 3a: Western Nevada County District Zoning
(Northern Portion)





Eastern Nevada County Zoning Districts		
General Agricultural	Incorporated Area	Medium Density Residential
Business Park	Interim Development Reserve	High Density Residential
Neighborhood Commercial	Light Industrial	Residential Agricultural
Community Commercial	Open Space	Recreation
Highway Commercial	Public	Timberland Production Zone
Forest	Single-Family Residential	

Created by Nevada County GIS Division 12/20/2016
 Eastern Nevada County Zoning Map
 Every reasonable effort has been made to ensure the accuracy of the map.
 The County of Nevada assumes no responsibility for errors or omissions.
 WARRANTY OF ANY KIND, after approval or posting, including but not limited to, the fitness of the map for any purpose, is hereby disclaimed.
 For a complete and current listing of zoning districts, please refer to the zoning ordinance as published in the Nevada County Public Counter staff website at the county website.

Last Update: 12/3/2015

- NOTES:**
- Bold indicates a zone in which cultivation for personal use or commercial purposes would be permitted.
 - Commercial Cannabis cultivation would only be allowed in AG, AE, and FR zones.



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PUBLIC COMMENTS

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RECEIVED

SEP 10 2018

NEVADA COUNTY
PLANNING DEPARTMENT

Sept. 10, 2018

Dear Nevada County Supervisors
Brian Foss, M. Dir. Nevada County, CA 95959

Abigail Givens, U.D.

① Subject: Nevada County Commercial
Cannabis Cultivation Ordinance
Environmental Impact Report
Response to Notice of Preparation (8/10/18)

② Request for Extension of time

③ Req. for Extension of Time:

In view of the extreme complexity of the issue at hand (proposals of ^{FEDERALLY} illegal substance cultivation) and the ^{large} number of potential responsible + trustee agencies notified, and the number of potential "agencies" + groups NOT notified I would strongly suggest extension of time and ^{expansion of} increase of public notification for at least an additional 90 days.

Groups not notified would include, but not be limited to:

Social Services, Police Dept's, Sheriff's Dept's,
Fire Dept's; Chamber of Commerce, School District
Church Councils, Organic Farmers Assoc.,
Farmers Assoc; 4H, Hospitals, Emergency
Service Providers, Teen Organizations,
Homeless Service Providers Organization's, Medical

and Psychologic Service Provider Organizations,
 Water Testing & Purifying Organizations,
 Senior, convalescent, housing centers & agencies,
 Bus & Taxi Services (School & Public),
 Business Assoc. of local towns,
 Local animal shelters, Wildlife Rescue Services,
 Local Contractors & Realtor Associations

- ① Response to notice of Preparedness Preparation:
 - (A) Inadeq. notification - time & agencies - see above
 - (B) Severe risk to citizens of Nevada County & others of County knowingly involving citizens & own finances in a known federally illegal operation.
 - (C) Cities of Nevada County prematurely accepting funds relative to operations of business related to a federally illegal substance.
 - (D) Unstated ^{legal} basis on which this County is pursuing this project.
 - (E) Inadequate discussion of "proposal" for Nov. 2018 ballot measure - how is it related to this ER preparation?
 - (F) Goals are inconsistent with:
 - (E) Inadequate use of other measures to solve problem of "illegal grows - approx 3500 per County's comments" - including Federal remedies which would be both legal and possibly more financially beneficial to this county than any

Amma EIR (WOP)
9/10/81

(E) (cont.) hoped for revenue from 'cannabis growers', who would be just as difficult to get "true taxes" from as they are now as illegal operators.

(II) Present inability of County to control illegal operations of 3500 operators would NOT support the idea the County could be any more successful using the proposed new project as proposed.

III Present lack of any baseline values, for example, to WATER quality which is a major threat already by illegal "grows", allowing for any future monitoring which might be required as a mitigation. There is also no known adequate monitoring ability in this County for water quality now (Sitehaw suit of Friends of Nevada City vs Nevada City, 2000 concerning proposed Hotel at Gold Flat) + Highway 49 + discovery of very toxic, heavy metal pollution at proposed site). Also this County is well known to have been heavy metal poisoned from extensive gold mine operations.

Both the County, State + many citizens are aware. A toxicity problem of pesticides, herbicides etc should certainly NOT be added onto an already unresolved, ~~unresolved~~ unresolved issue of gold mining toxicity. Remember, our water flows downstream to the Pacific Ocean and the cannabis grown ~~here~~ here will certainly go all over the world to unsuspecting users (both medical + personal (wo) medical).

IV Inability, in future, to comply with the State + Federal agricultural standards (chemical use, water quality etc) in an illegal (Federal) operation.

(E) County, knowingly decreasing property values and increasing county costs (social services, fire, police, compliance with project demands etc) and unwisely hoping fees + taxes from "legalizing" pot grows will offset the expenses of the "project".

(G) The EIR certainly would need to include results of a similar "project" in other counties in California and other countries - I believe Holland, after 60 yrs or so, has decided their decisions were harmful to their country regarding illegal drugs.

9/10/18 9/10/18

(H) The project "would certainly need to take into consideration costs to local citizens of many kinds - Example: (I) Home Insurance costs - fire, theft

(II) security - fencing protection etc

(III) air quality - filters air conditioning medical treatment for "second hand users"

(IV) Loss of property values difficulty in selling property with "Problem Neighbors"

(V) difficulty in the Counties ability to grant a permit to someone growing within a proposed "1000 ft." of a CHILD no just a school - even 1 child in 1 house should negate a "grow" next door

(I) The following is a list of possible & known risks of this project - it is very extensive but I expect not inclusive of all risks:

(F) water degradation & limitation - in county & down stream - potable & non potable, agriculture on personal & commercial

(II) air, smell, odor,

(III) light pollution, inc. power consumption

(H) cont.

IV wildlife - deer are often shot to protect plants - birds, frogs, insects, bees etc
extensive broad spreading ushs

V fire, smoke - our County already is at very high fire risk, we cannot afford to add to that

VI Increased crime - theft, shottings, poisonings of neighbors animals pets +/or livestock -
ine risk of weapons to protect crops theft by users + rival growers

VII Risk of explosions, ^{fires etc.} in processing - already costly to all concerned (citizens + potential cannabix "producers")

VIII Increased traffic volume, larger vehicles, "stoned" drivers, NON "moral" minded, ~~off~~ aggressive, rude + dangerous drivers; very small town streets unable to handle the number + size of vehicles (ex. Nevada City recent city council mtg re: parking on Coyote St.); pollution

IX Danger of many kinds to (unprotected) minors: fire, smoke, explosion, water, traffic, violence, degradation of cultural environment, etc.

X Severe degradation of Cultural quality of Historic area of California, a Constitutional City (Nevada City) and present + future citizens of California + world.

-7-7
Hivens EIR NOP
9/10/18

In summary:

1. The proposed project is much too complex and dangerous for this, small, unsophisticated county.

A no project alternative would be the best choice for the EIR to propose, hopefully avoiding serious legal and moral consequences.

2. I have, in the past, heard an applicable comment:

It's not wise to try to put "lipstick on a pig"

Sincerely,

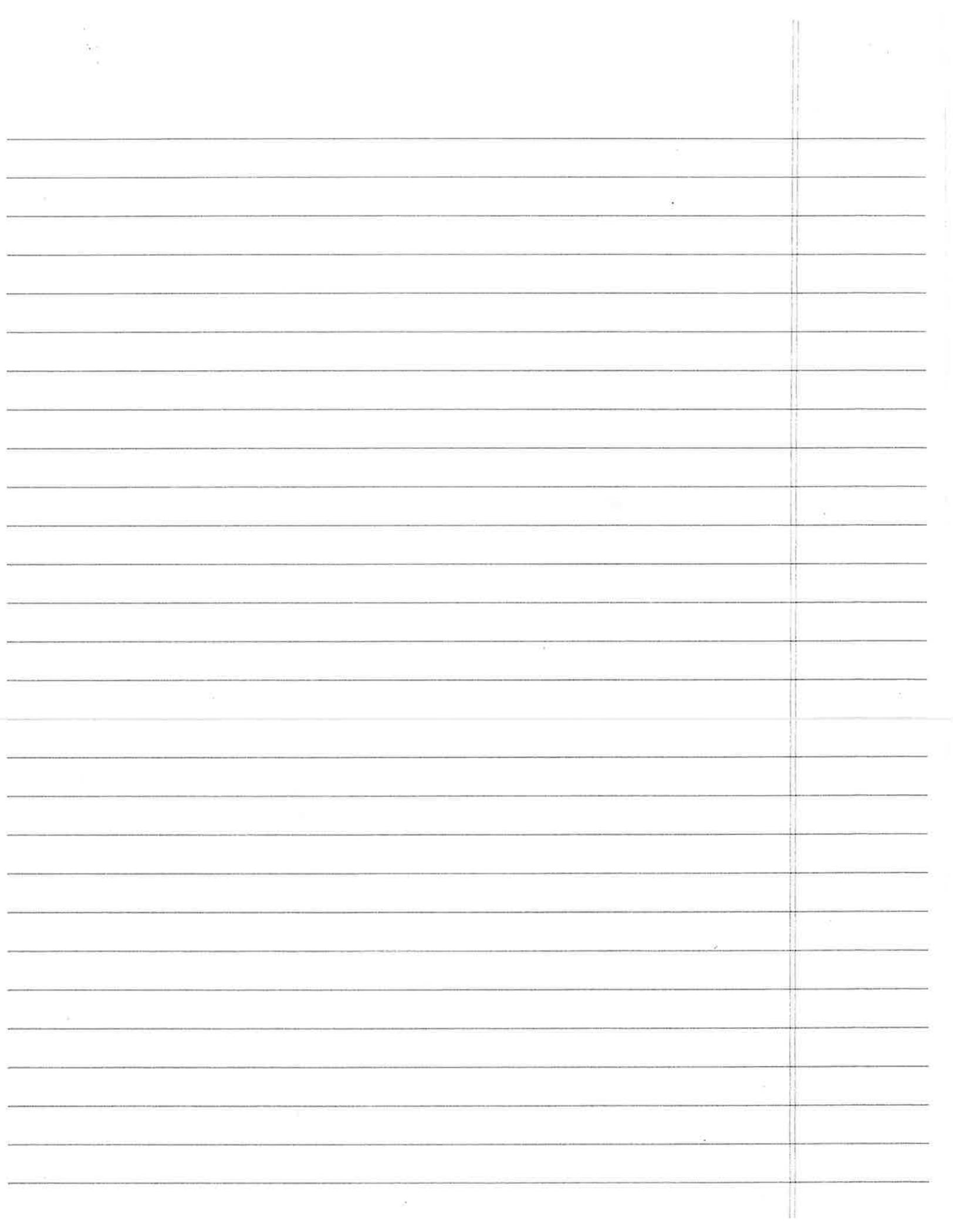
Abigail Hivens
(Jean M. Reiserauer)

P.O. Box 2033

B.V. 95954

or

11638 Banner Mountain Rd
Nevada City, CA 95959



Hengl, Tasha

From: Alex Squared <Royalcrestcannabis@outlook.com>
Sent: Wednesday, September 5, 2018 2:04 PM
To: Planning
Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

Hello Brian Foss,

First of all thank you for your dedication to Nevada County and the interest of it's inhabitants. I attended the public comment on August 22 at the Bear River High School and would like to elaborate more as to why I believe the use of CO2 enrichment should be included in the cannabis ordinance and how it affects our local environment.

First I think it is important to understand what CO2 enrichment is and how it affects indoor cannabis cultivation. CO2 is an essential molecule for the chemical reaction photosynthesis in plants. When you grow any plant in a closed room the atmosphere within said room changes as the plant uses the CO2 and transpires oxygen. This means the CO2 must be replenished, this occurs in two ways with CO2 enrichment from a CO2 burner or passively introducing CO2 from the atmosphere outside the room. There are several problems with passive CO2 introduction first is the smell, second are the pests, and third is the degradation of quality medicine.

When CO2 is brought into the closed indoor cultivation room it is brought in through fans from the outside atmosphere, but this means that air from within the room must be pushed out of the room through an exhaust fan. This air being exhausted is full of terpenes that carry the distinct cannabis scent. After months of attending public meetings on the proposed local cannabis ordinance it appears that smell is one of the biggest public nuisance complaints. This problem can be solved by allowing the use of CO2 enrichment because there is no air from the outside being pulled in and there is no "smelly" air being blown out. That being said let's address the second problem which are pests...

When you bring in CO2 from the outside atmosphere you are literally bringing in everything else that makes up that atmosphere as well and often that includes pests such as fungus gnats, mites, mold, smoke, and other pollutants. Therefore by allowing CO2 enrichment you are drastically reducing the chance of a pest infestation or other contaminants. This means the county will be reducing the amount of pesticides that need to be used to control said pests. This leads me to the final problem with passive CO2 and that is the degradation of quality medicine.

Cannabis cultivation in Nevada County is only allowed for medicinal purposes this means that every cannabis product created here will be treating a medical patient. Patients are looking for the best quality medicine and this quality is determined through the levels of cannabinoids (CBD,CBG,CBN,THCA,etc.) as well as terpenes. These levels are increased with CO2 enrichment as more CO2 is available to the plant than would naturally be available to them from the atmosphere. Currently the atmospheric content of CO2 is around 400 PPM the levels found in a controlled indoor cultivation site should be above 1000 PPM to produce the best quality medicine as well as increase the yield through the increased rate of photosynthesis.

This brings me to the my last point a clear benefit of CO2 enrichment and that is the increased yield attributed to higher levels of CO2. Nevada County is allowing a maximum cultivation size of 10,000 square feet this is a

quarter of the size of a cannabis cultivation site currently allowed in the state of California. It is essential that the small farmers that make up the Nevada County cultivators maximize their production with what they are allowed in order to compete with the rest of the state.

Please include CO2 enrichment in the draft commercial cannabis ordinance for Nevada County.

Like I said at the high school I am more than willing to help in anyway that I can with the EIR and would like to invite you and/or Jeff (Contracted EIR agent) to our farm to assist in anyway we can with the EIR and the further development of the local cannabis ordinance.

Thank You,

Alexandria Irons

CFO - Royal Crest LLC

530-563-8596



NEVADA COUNTY COMMERCIAL CANNABIS CULTIVATION ORDINANCE EIR
NOTICE OF PREPARATION SCOPING MEETING

NOTICE OF PREPARATION COMMENTS
SUBMIT COMMENTS PRIOR TO 5:00 PM ON SEPTEMBER 10, 2018

Name: Allison Durham

Agency/Group/Organization: self

Mailing Address: 20816 Oxbow Way, Grass Valley, CA 95949

Email Address: maranch10@gmail.com

Phone Number: 530-632-3669

Comments:

During 3 years drought, my family lived fine with neighbors. The year we came out of drought with Big rains, my neighbors sold to cannabis grower and every year since in August my well goes dry. Now I'm forced to purchase water for my family and animals because of cannabis. Please consider writing into law that when growers grow cannabis that they should use water from another

source besides ground water so neighbors aren't suffering and environment doesn't suffer.

Send To: Brian Foss, Planning Director
Planning Department
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
Telephone: (530) 265-1222, Fax: (530) 265-9851
Email: planning@co.nevada.ca.us

Hengl, Tasha

From: Drew <andrewgoodwin@gmail.com>
Sent: Wednesday, August 29, 2018 10:20 AM
To: Planning
Subject: Cannabis EIR

The least environmental impact for patients to access cannabis is for them to grow it themselves ... Personal Gardens use very little water and pose small micro impacts verses larger impacts from commercial gardens.

By not allowing patients to have immature plants it makes it almost impossible for them to accomplish this ... Patients need to be able to keep immature plants around to preserve the strains. Also patients need to have extra immature plants to be able to have extra plants to sex from when growing from seed. Immature plants should not be counted for personal gardens.

Commercial Cannabis gardens should be encouraged not to be moved and create additional impacts on the environment.

My garden location now being used for food production was placed do to a prevouse ordinance measuring garden setbacks from Outdoor living area rather than property line ... I feel I should not have to get a CUP if I want to move back to cannabis production.

I am not a member of The Cannabis Alliance they are not transparent or act professional in private situations ... Many growers in my area feel the same but will still be trying actively trying to get licensed.

Andrew

To: Brian Foss, Planning Director

From: Anonymous Nevada County Cannabis Farmer (Submitted by Diana Gamzon)

Date: Sep 10, 2018

RE: Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

This report is being reported submitted on behalf on an Anonymous Nevada County Cannabis Farmer. It should be noted that there are many different practices for cultivating cannabis. The account below is only one farmers account. The Nevada County Cannabis Alliance strongly advocates for Kimley Horn to speak directly to farmers to best understand the various types of practices and methods of cultivating cannabis.

Farmer's Journal

Mixed light Cultivation

Hoop House / Greenhouse - Tier 1 / Tier 2

Different farms will have different cultivation plans and different cultivation techniques that will affect the lay out of the plants and the number of the plants .

Feeding Schedules and programs may be different as well.

February :

Middle of February I receive my first batch of clones (in a 4-inch pots) for the first cycle of the year (first cycle from early April to Mid-June).

Put clones under 1000 watts grow light (1 grow light) in my processing structure (anchored and permitted Shipping container), until clones are ready to be transplanted into 5-gallon Pots.

After 2 to 3 weeks clones are ready to transplanted into the 5 Gallon pots.

March:

Middle of March clones are in 5 Gallon pots and Under 1000 watts light (at this stage I will have 1 to 4 lights depending on number of plants (lights on for the vegetative stage)

Feeding schedule up to now:

Microlizer for the roots

NPK products(Food) :Nitrogen, Sea weed , Humic Acid

Compost Tea :compost , worm cast , Bat Guano ,fish oil and other Minerals .

Sweetener(with sulfur) or Molasse.

Water usage and irrigation technic :

Drip system for irrigation technic

about a liter of water every other day (could be less)

Pesticide Program:

Prevention Foliar once a week : Organic Neem oil

Early to Mid April :

Plants will be transplanted into the High Tunnel Hoop House into 65 Gallon Pots (final transplant for the cycle).

Structure type :No Light Leakage

Soil:

Many farms source their soil from local suppliers who can show documentation that the soil is clean and has been tested . many farms reuse their soil from year to year with amending the soil after each cycle .

Amending Products for the soil : given once a week as part of the feeding program.

Nutrihold Organic

22%Carbon :feeds biology

41% organic matter :builds soil structure

Humic Acid: nutrient chelator

Fulvic Acid:nutrient transport plant tissue.

support microbial growth

for this cycle i used a light deprivation system all the way through the life of the cycle .

light deprivation system:

The plants will be getting supplemental light in a form of 60 watts light bulbs string (about 50 bulbs string) .

from mid April to mid May the plants will be receiving approx 6-7 hours of additional light so they stay in the vegetative stage . Mid May i change the hours of the dep to 12 hours of light and 12 hours of darkness that will put the plants in Flowering mode .

Early April :

I will receive my second batch of clones for my second Hoop House cycle .

second batch will be veg outside under the sun and not inside any structure .this will save energy and take full advantage of the sun .

Feeding during the cycle :

Microlizer for the roots

NPK products(Food) :Nitrogen, Sea weed , Humic Acid

Compost Tea :compost , worm cast , Bat Guano ,fish oil and other Minerals .

Sweetener(with sulfur) or Molasse.

Water usage and irrigation technic :

Drip system for irrigation technic

about a 6 gallon of water every other day (could be less)

Pesticide Program:

Prevention Foliar once a week : Organic Neem oil

in case of a infestation and also part of prevenstion :Tip Top Bio control (natural predators)

Early Middle of June : Harvest & Trim

Harvest of the first cycle will happen in June .for the harvest i prepare my drying room with strings to hang the flower to dry (container).The room will have AC , Ventilation intake and outtake fans, humidifiers and regular floor fans.

During the Harvest 8 -10 crew members all employed with W9 will help with the harvest and hanging.

Harvest will take anywhere from 6 - 10 hours .

The temporary work crew will arrive in one or two vehicles and leave the same day (to limit car movement).

The flower will dry for the next 5-7 days .

During the drying period i will prepare the Hoop House for the second cycle .the clones that i received early April will be transplanted in to the HH about Mid to end June and will be harvested early - mid October .

Trim session :once the flower has dried they are taken down and put into totes (Bins) for storage and curing (first phase of curing).

the temporary work crew will come back and start the trim processing .crew will stay on premises until trim is complet (no vehicle movement).

A single Trim session can take anywhere from 5 days to 10 days depending on the size of the yield quality of the work and number of trimers .

Product that was Trimend in stored in a secure room for further curing and packing.

Product is divided into 1 Pound units in turkey bags for further storage in the secured room (could also be stored in totes).

Farmers Journal

Outdoor Cultivation

Different farms will have different cultivation plans and different cultivation techniques that will affect the lay out of the plants and the number of the plants.

Feeding Schedules and programs may be different as well.

April:

Early - Mid April I will receive the Outdoor garden batch of clones (for 10,000 sq ft Garden 200 clones will be grown in 50 sq ft area per Plant).

The clones will be in vegetation under a 1000 Watts light for its first two weeks after transplanting in to 4' pots.

May:

Clones will be Transplanted into 5 gallon pots and moved to continue vegetation under the sun to save energy and take advantage of the sun's heat and light .

June:

Mid - Late June Plants will Transplanted into the 400 gallon pots (50 Sq ft is about 400 gallons of soil).

Most Farmers will hurry up to transplant before and up to June 21st (longest day of the year).

Feeding:

Microlizer for the roots

NPK products(Food) :Nitrogen, Sea weed , Humic Acid

Compost Tea :compost , worm cast , Bat Guano ,fish oil and other Minerals .

Sweetener(with sulfur) or Molasse.

Water usage and irrigation technic :

Drip system for irrigation technic

about a 6 gallons of water every other day (could be less)

Pesticide Program:

Prevention Foliar once a week : Organic Neem oil

in case of a infestation and also part of prevenstiom :Tip Top Bio control (natural predators)

August:

During the month of August the Flower stage will begin .flowering is expected to start anywhere between the second and the third week of the month of August.

Amending Products for the soil : given once a week as part of the feeding program.

Nutrihold Organic

22%Carbon :feeds biology

41% organic matter :builds soil structure

Humic Acid: nutrient chelator

Fulvic Acid:nutrient transport plant tissue.

support microbial growth

October - Harvest

Harvest will begin anywhere in between the first and second week of Oct (some farms will harvest also towards the end of Oct).

During the Harvest 8 -10 crew members all employed with W9 will help with the harvest and hanging.

Harvest will take anywhere from 6 - 10 hours .

The temporary work crew will arrive in one or two vehicles and leave the same day (to limit car movement).

The flower will dry for the next 5-7 days .

Trim session :once the flower has dried they are taken down and put into totes (Bins) for storage and curing (first phase of curing).

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Product is divided into 1 Pound units in turkey bags for further storage in the secured room (could also be stored in totes).



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE
Karen Ross, Secretary

September 7, 2018

Brian Foss
Planning Director
Nevada County Planning Department
950 Maidu Avenue
Nevada City, CA 95959

Re: Nevada County Commercial Cannabis Cultivation Ordinance Notice of Preparation (NOP) Scoping Comment; NOP for the Nevada County Cannabis Ordinance Draft Environmental Impact Report (EIR), State Clearinghouse No. 2018082023

Dear Mr. Foss:

The California Department of Food and Agriculture's (CDFA's) CalCannabis Division (CalCannabis) is pleased to submit comments on the NOP for the Nevada County Cannabis Ordinance (Proposed Project), located in Nevada County, California.

CalCannabis is a Responsible Agency with jurisdiction over the issuance of licenses to cultivate, propagate and process commercial cannabis in the State of California. CalCannabis issues licenses to outdoor, indoor, and mixed-light cannabis cultivators, cannabis nurseries and cannabis processor facilities, where the local jurisdiction authorizes these activities. This authority is pursuant to the Business and Professions Code, Division 10, Chapter 2, Section 26012(2). All commercial cannabis cultivation within the State of California requires a cultivation license from CalCannabis.

CalCannabis certified a Programmatic Environmental Impact Report (PEIR) for cannabis activities throughout the state on November 13, 2017. The PEIR can be found at the following link: <https://www.cdfa.ca.gov/calcannabis/PEIR.html>. For a complete list of all license requirements please visit: <https://cannabis.ca.gov/wp-content/uploads/sites/13/2018/06/CA-Department-of-Food-and-Agriculture-Final-Text-of-Readopted-Emergency-Regulations.pdf>.

Background

Nevada County's draft cannabis ordinance requires a cannabis cultivator to obtain two local permits, including an "Annual Cannabis Permit" and an "Administrative Development Permit" or a "Conditional Use Permit." CalCannabis understands that



Nevada County's permitting decisions will be discretionary actions within the meaning of the California Environmental Quality Act (CEQA), which may require Nevada County to engage in site-specific CEQA review on a permit-by-permit basis.

It is important to note that, pursuant to state regulations, CDFA requires an annual-license applicant to provide evidence of exemption from, or compliance with, CEQA. 3 Cal. Code of Regs. § 8102. Such evidence may be in the form of a copy of the applicant's local permit and the accompanying permitting package, if the local jurisdiction has adopted an ordinance that requires discretionary review and approval of permits. However, if the local jurisdiction did not prepare a CEQA document, then generally the applicant will be responsible for the preparation of an environmental document in compliance with CEQA that can be approved or certified by CDFA.

Nevada County's draft cannabis ordinance states that an application for a local Annual Cannabis Permit must include a "[c]opy of valid state license allowing for type of Commercial Cannabis Activity applied for[.]" This suggests that Nevada County will require applicants to obtain a state license from CDFA prior to applying for a license from Nevada County. If Nevada County's final cannabis ordinance retains this framework, CalCannabis may need to act as the CEQA lead agency when a project proponent applies.

However, if a local jurisdiction prepares the CEQA compliance document that contains the information required by CDFA to issue an annual license, it improves the efficiency with which CalCannabis can issue annual licenses for projects located within that jurisdiction.

Comments and Recommendations

Comment 1: The CalCannabis PEIR determined that some environmental topics generally fell outside of CalCannabis' regulatory authority because these topics are regulated by local land use. These include issues such as aesthetics, land use and planning, geology and soils, mineral resources, noise, odors, regional recreational structures and services, compliance with building standards, provisions for police and fire protection, and connections to public utilities (e.g., public water, wastewater, and storm drainage systems). Additionally, there are other topics for which detailed analysis in the CalCannabis PEIR was not possible because of the statewide nature of the CalCannabis licensure program. Many of these topics involve the evaluation of site-specific conditions, the details of which were infeasible to identify and evaluate in a statewide PEIR, and the characteristics of which were unknown at the time the PEIR was published (e.g., the locations of new cultivation sites that would be planned and licensed were unknown at the time the PEIR was published).

For these topics, listed below, the CalCannabis PEIR determined that potential impacts would most appropriately be evaluated in local regulatory program-level documents or site-specific documents. The PEIR, where appropriate, provides more general conclusions regarding the likelihood and types of impacts caused by cannabis cultivation, including the cumulative impacts that would be expected under the statewide CalCannabis Program.

Aesthetics

- Substantial adverse effects on scenic vistas, scenic resources, or State-designated scenic highway, and/or the existing visual character or quality of a site and its surroundings

Land Use and Planning

- Conflicts with any and all local land use plans, ordinances, policies, and/or resource programs; including but not limited to applicable Habitat Conservation Plans and Natural Community Conservation Plans

Mineral Resources

- Potential loss of availability of a known mineral resource that would be of value to the region and the residents of the state
- Potential for the extraction of substantial mineral resources from lands classified by the State as areas that contain mineral resources (Mineral Resource Zone [MRZ]-3)
- Loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan

Noise

- Exposure of people or residences to excessive noise levels within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport
- Generation of excessive ground borne vibration or ground borne noise levels
- Substantial permanent increase in ambient noise levels in the vicinity of a licensed cultivation activities above existing levels
- Excessive noise for sensitive receptors, and/or resulting in a substantial temporary or periodic increase in ambient noise levels
- Short-term construction-related impacts to noise (if applicable)
- Long-term operation-related noise impacts resulting from traffic and related changes to existing noise levels

Odor (Air Quality)

- Create objectionable odors affecting a substantial number of people as a result of cannabis cultivation

Recreation

- Potential impacts to existing neighborhood and regional parks or other recreational facilities

Public Services and Utilities

- Exceedance of wastewater treatment requirements, resulting in the need to expand wastewater treatment facilities, or result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project
- Require or result in the construction of new or expanded water treatment and/or storm water facilities
- Potential to be served by a landfill with insufficient capacity

Traffic and Transportation

- Conflict with circulation plans, ordinances, or policies
- Conflict with congestion management programs
- Increase hazards due to a design feature or incompatible uses.

Thus, CalCannabis requests that the Nevada County EIR evaluate the impacts of licensed commercial cannabis cultivation for these resource topics, at an appropriate regionally focused level, and include mitigation measures that, when applied to individual projects, will ensure that these projects will not result in significant adverse impacts on the environment.

Comment 2: It is critical for the EIR to evaluate the cumulative impacts of cannabis cultivation in Nevada County. Of particular importance are topics for which the impacts of individual project may be less than significant, but where individual projects may contribute to a significant cumulative impact. These topics include:

- Impacts of surface water diversions on aquatic species and habitats, including riparian habitats reliant on stream flows;
- Impacts of groundwater diversions on the health of the underlying aquifer, including impacts on other users, impacts on stream-related resources connected to the aquifer;

- Impacts on terrestrial biological species and habitats, particularly special-status species as defined under CEQA;
- Impacts related to noise;
- Impacts related to air quality and objectionable odors.

Comment 3: Where the CalCannabis PEIR determined that potential impacts would most appropriately be evaluated at a local level, CalCannabis anticipated that local governments would provide applicants with direction on how to operate their cannabis operations without adversely impacting the environment, as defined under CEQA. CalCannabis assumes that, as part of the local jurisdiction's approval process, the local government will comply with CEQA, which may include an evaluation of the impacts of its overall regulatory program, as well as a determination as to whether specific permit or project types would require a site-specific CEQA evaluation. Applicable regulatory framework and significance thresholds appropriate at a local level may be provided in the County's cannabis cultivation ordinance or through a regulatory framework established in the County's general plan, land use policies, ordinances, and/or other regional plans developed.

Local governments should review the State regulations and requirements and consider adopting policies that are equally as restrictive as those defined by the State. Applicants for State licensure will be required to meet these requirements, so requiring measures that are at least as restrictive will minimize changes down the road when, for example, cannabis cultivators have already generated a cultivation plan, invested in their grow site, adjoining properties, and/or any other initial steps defining their cultivation operation plans.

Comment 4: For site-specific cultivation projects where CDFA must act as the CEQA lead agency, CDFA will either have to rely on its PEIR for Annual Permit issuance (possibly in combination with Nevada County's program-level EIR), or request that the applicant prepare site-specific analysis. It is possible that some projects may require extensive CEQA documentation. This may result in significant delays to projects receiving state cultivation licenses. CalCannabis therefore requests that, under these circumstances, the County provide information that demonstrates that these projects would not result in significant adverse impacts to the environment, nor make a substantial contribution to a significant cumulative impact. Such information may include specific evaluation of the impacts of the projects, and the inclusion of mitigation measures or permit terms that minimize the impacts of the project and its contribution to any significant cumulative impacts identified in the County's program-level EIR.

Conclusion

CalCannabis appreciates the opportunity to provide comments on the NOP for the Nevada County Cannabis Ordinance. If you require additional information, please contact Kevin Ponce, Senior Environmental Scientist Supervisory, at (916) 263-1494 or via e-mail at kevin.ponce@cdfa.ca.gov.

Sincerely,



Rich Breuer
Chief, Licensing Branch

**DEPARTMENT OF FORESTRY AND FIRE PROTECTION**

13760 Lincoln Way
Auburn, CA 95603
Nevada City, CA 95959
(530) 889-0111
Website: www.fire.ca.gov



9/4/2018

TO: Brian Foss
Nevada County Planning Department
950 Maidu Avenue
Nevada City, CA 95959

RE: Cannabis Ordinance Zoning Text Amendment ORD18-2, EIR18-0001

This cannabis ordinance zoning amendment may require timberland owners to file a Timberland Conversion and Timber Harvest Plan as per the following:

California Code of Regulations, per 1103, and Public Resource Code 4581 requires a Timberland Conversion Permit and/or Timber Harvest Plan be filed with the California Department of Forestry and Fire Protection if the project involves the removal of a crop trees of commercial species (regardless of size of trees, county zoning, or if the trees are commercialized).

If the property already has a current timber harvest plan or non-industrial timber harvest plan the document may need to be withdrawn or revised to account for any proposed Timberland Conversion.

A Timberland Conversion Permit and Timber Harvest Plan shall address the following:

1. A. The decrease in timber base in the county as a result of the project.
B. The cover type, including commercial species, density, age, and size composition affected by the project.
C. The ground slopes and aspects of the area affected by the project.
D. The soil types affected by the project.
E. Any significant problems that may affect the conversion.
2. Significant on-site and off-site cumulative effects on:
A. Watershed Resources
B. Soil Productivity
C. Biological Resources
D. Recreational Resources
E. Visual Resources
F. Vehicle Traffic Impacts
G. Cultural Resources- preservation of significant pre-historic and historic archaeological sites.

There will be other requirements related to California Public Resource Code 4290 and 4291 that will be determined when plans are submitted to Nevada County.

If you require further clarification, please contact Forester Jack Harvey at 530-265-4589 ext 104.

GEORGE MORRIS III
Unit Chief
Nevada-Yuba-Placer Unit
13760 Lincoln Way
Auburn, CA 95603

BY: Jack R Harvey
Jack Harvey

Attachment(s): None

CC:
 x Region/Area Office; x Unit

Hengl, Tasha

From: CJ Brady <brady4@jps.net>
Sent: Wednesday, August 29, 2018 8:18 PM
To: Planning
Subject: Attn: Brian Foss, Planning Director Re: CEQA Scoping, Public Comment

Brian Foss, Planning Director
Nevada County Planning Department
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
RE: Public Comment on Local Cannabis Ordinance

August 29, 2018

Dear Mr. Foss,

I would like to thank Nevada County Planning Department for seeking public input and following a thoughtful process in the development of a new cannabis ordinance.

My family has followed community discussion over the past several years, and we would be most appreciative if the new ordinance would address the issue of odor control for grows on residential agriculture properties of 5 acres.

In our area, due to terrain constraints, some of the residences located on 5-acre parcels have been constructed fairly close to neighboring homes. When property owners who choose to grow cannabis decide to locate their gardens near their neighbors' residences, the plants' unpleasant, pervasive odor significantly impacts the neighbors' quality of life for several months of the year.

While we understand that the residential "agriculture" designation provides opportunity for property owners to engage in agricultural activities, historically courtesy has been practiced in the placement of the more odiferous aspects of those activities. Barns, pens, coops, etc. are not typically located close to neighboring homes. Five-acre parcels do not provide much of a buffer around agricultural activity when that activity is practiced in the immediate vicinity of neighbors' residences.

We respect our neighbors' right to grow cannabis. We would simply appreciate regulation that mandates courtesy in the garden's placement and some effective system of odor control.

Thank you for considering our concerns.

Sincerely,
CJ Brady
20191 Wolf Creek Road
Grass Valley, CA 95949

(530) 346-6252
brady4@jps.net

Hengl, Tasha

From: Dave Schafer <dave@schafertown.com>
Sent: Friday, September 7, 2018 7:53 AM
To: Planning
Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

Brian Foss,

CO2 enrichment is extremely important for the medical cannabis. Also, the cannabis industry is an economic plus for our community. Please do full research before deciding?

Dave

Hengl, Tasha

From: David J. Cooper <hillcraftfarms1@gmail.com>
Sent: Monday, September 10, 2018 2:04 PM
To: Planning
Subject: Nevada County Cannabis Cultivation Ordinance NOP Scoping Comments

Good Day,

Im writing to you today representing myself as a craft cannabis farmer as well as representing hundreds more like me here in Nevada County. Im a proud member of the Nevada County Cannabis Alliance and align myself with their views on things as well. Im going to do my best to give you an understanding of the environmental impacts that can be associated with Cannabis farming when done in a way that we do things. I want to state that myself and the others I represent have the upmost respect for the earth and this reflects itself in our farming practices. The robust set of regulations that have been given by both state and county will alone mitigate many environmental concerns.

Potential Impacts and how they can be mitigated:

1. Aesthetics

A. As far as the actual sight of a garden whether it be a greenhouse or an outdoor grow, there are both thorough state and local regulations that we are required to meet in order to getting our permits.

Many of us utilize lighting systems only early in the spring season or I know some who will use a lighting system later in the fall/winter garden when the light cycle changes, in order to keep their plants vegging. The mitigation for light pollution of a green house at night is simple, you keep it covered with a "black out tarp" which is a light tight tarp drawn over the greenhouse or high tunnel.

i. Grow light systems associated with cultivation shall be shielded to confine light and glare to the interior of the structure at all times, shall not be visible during the night time hours, and shall conform to all applicable building and electrical codes (*Nevada County draft Cultivation Ordinance, Sec 1.4 C, 5*). *

ii. New Commercial, Industrial and Multiple Family development shall utilize fixtures and light sources that minimize night time light pollution. (*Nevada County General Code - Aesthetics - Chapter 18 - Policy 18.11*)*

iii. All licensees shall comply with the following environmental protection measures: Mixed-light license types of all tiers and sizes shall ensure that lights used for cultivation are shielded from sunset to sunrise to avoid nighttime glare. (*California Department of Food and Ag, CDFR Proposed Cultivation Regulations Sec 8304, g*)*

B. All gardens have specific areas that are allowed or prohibited by both state and county in order to protect the views on public and private lands. Fences are a requirement at all garden sites further mitigating view.

2. Air Quality

A. Indoor growing has a whole set of regulations in place to mitigate odor.

B. For the **outdoor** gardens and greenhouse, the best option is the parcel size in relation to grow size and the specific zoning designation. For example in Nevada County, we can only have a license type 2, which is 10,000 sq ft. in ag zoned properties that are 20 acres plus. The ag zone implies most of the time that its a property placed outside of a densely populated area and it usually refers to bigger parcels. This naturally will cut down on the odor that may be bothersome to some. However, there is on going debate and tension with farmers who live on res ag designations that are adequate size for a commercial crop.

C. The **Environmental impact** from nature standpoint, they are full leafy shrubs basically that consume a significant amount of CO2 and giving off more Oxygen, therefore enhancing the quality of air around the garden site at least if not more.

D. Generator use has strict guidelines.

i. Generator requirements must comply with (*CDFA Proposed Cultivation Regulations Sec 8306. Generator Requirements*):

(b) Licensees using generators rated at fifty (50) horsepower and greater shall demonstrate compliance with Airborne Toxic Control Measures pursuant to title 17, div 3, chap 1, sub-chap 7.5, sec 93115 - 93115.5 of the California Code of Regulations. Compliance shall be demonstrated by providing a copy of one of the following to the department upon request:

- 1.
 2. A Portable Equipment Registration Certificate
 3. provided by the California Air Resources Board;
 - 4.
 - 5.
 6. A Permit to Operate obtained from the Local Air District with
 7. jurisdiction over the licensed premises.
 - 8.
- ii.
- iii. (c) Licensees using generators rated below fifty (50) horsepower
- iv. shall comply with the following by 2023:
- v.
- vi.
- 1.
 2. (1) Designate the generator as emergency or low-use as defined
 3. in title 17, division 3, chapter 1, subchapter 7.5, sections 93116.2(a)(12) and 93116.2(a)(22) of the California Code of Regulations;
 - 4.
 - 5.
 6. (2) Either (A) or (B):
 - 7.
 8.
 - a.
 - b. (A) Meet Tier 3 with level 3 diesel particulate filter requirements
 - c. pursuant to title 13, division 3, chapter 9, article 4, section 2423 of the California Code of Regulations;
 - d.
 - e.
 - f.

g.
h.

9.
10.
11.
12.

13.
14.

vii.

viii.

ix. (B) Meet Tier 4 engine requirements pursuant to title 13, division 3, chapter 14, section 2702 of the California Code of Regulations.

x.

xi.

xii.

xiii. 3. Biological Resources.

xiv. The Craft Farmer is concerned about the biology not only of his/her own soil, but the biology in the greater ecosystem

xv. around. We understand that biology plays an imperative role in a healthy natural world. Its what allows everything to be nourished, its a vital link in the food chain. We have practices that we utilize to build our soil, feeding the healthy biology in order

xvi. to produce that healthiest plants and superior flowers, as well as practices to increase the vitality of our overall land. A healthy land is a healthy family, is a healthy community and world. We understand the roles our actions make and what potential they

xvii. may have to effect our communities, therefore we take it seriously. What we put in the soil reflects our respect and reverence for nature. We treat our cannabis plants the same way we treat our food gardens which feed our kids, so its of the greatest purity.

Companion planting is big part of the Craft farmer. We plant several varieties of annual and perennial herbs and plants that create a optimal environment for biology in the soil as well as attracting honey bees, butterflies and other pollinators.

Erosion control comes with the territory of terracing and moving earth. We maintain rooted plants (native species of grasses and flowers, as well as shrubs and trees) around the garden site as well as the whole land to add to stability of the ground and to increase absorption of rainfall and precipitation. This will increase even more most likely as we work with our county compliance department.

- a. All
- b. licensees shall comply with all of the following environmental protection measures:
- c. (CDFA
- d. *Proposed Cultivation Regulations Sec 8304.General*
- e. *Environmental Protection Measures*):
- f.

g.

- h.
- i.
- ii. Compliance
- iii. with section 13149 of the Water Code as implemented by the *State*
- iv. *Water Resources Control Board, Regional Water Quality Control Boards,*
- v. *or California*

vi. *Department of Fish and Wildlife;*

- vii.
- viii.
- ix. Compliance
- x. with any conditions requested by the *California*
- xi. *Department of Fish and Wildlife or the State Water Resources Control Board*
- xii. under

xiii. section 26060.1(b)(1) of the Business and Professions Code;

- xiv.
- i.

- b.
- c. All
- d. cannabis farmers must comply with the terms of any applicable Streambed Alteration Permit obtained from the California Department of Fish & Wildlife, (CDFW,
- e. [Fish](#)
- f. [and Game Code section 1602](#)).

- g.
- h.

- i.
- .
- i. CDFW
- ii. Lake

iii. and Streambed Alteration (LSA) Agreement (or written verification that one is not needed) includes information on the following:

- iv.
- v.
- 1.
- 2. Habitat

- 3. Loss & Fragmentation
- 4.
- 5.
- 6. Water
- 7. Diversion
- 8.
- 9.
- 10. Dams
- 11. and Stream Crossings
- 12.
- 13.
- 14. Pesticides
- 15. and Fertilizers
- 16.
- 17.
- 18. Light
- 19. Pollution
- 20.
- 21.
- 22. Noise
- 23. Pollution
- 24.

- vi.
- vii.
- viii. Required

ix. under California Department of Fish and Wildlife (CDFW) each proposed cultivation site to evaluate the possible presence of sensitive species.

- x.
- xi.
 - 1.
 - 2. Riparian
 - 3. Habitat
 - 4.
 - 5.
 - 6. Wetlands
 - 7.
 - 8.
 - 9. Migratory
 - 10. fish etc
 - 11.

xii.
j.

- c.
- d. All
- e. local cultivators must comply
- f. with section 13149 of the Water Code as implemented by the *State*
- g. *Water Resources Control Board*, which
- h. includes:
- i.

j.

- i. Adherence
 - ii. with specific slope restrictions, disturbed land sizes and distances from waterways and wetlands.
 - iii.
 - iv.
 - v. Site
 - vi. specific biological assessment (BSA) prepared by a qualified wildlife biologist,
 - vii.
 - viii.
 - ix.
 - x. Copy
 - xi. of Army Corp Section 404 Permit, as needed
 - xii.
 - xiii.
 - xiv. 401
 - xv. Certification by Central Valley Water Board, as needed
 - xvi.
 - xvii.
 - xviii. Site
 - xix. assessments will ensure there will **not**
 - xx. be any of the following:
 - xxi.
 - xxii.
 - 1.
 2. Diversion
 3. or obstruction of the natural flow that would substantially change any river, stream, or lake.
 - 4.
 - 5.
 - 6.
 7. Utilize
 8. material from bed, channel or bank of any river, stream or lake.
 - 9.
 - 10.
 11. Deposit
 12. or dispose of debris, waste or other material containing crumbled, flaked or ground pavement where it may pass any river, stream or lake.
 - 13.
 - 14.
 - xxiii.
 - xxiv.
 - xxv. Erosion
 - xxvi. Control Plan, as needed
 - xxvii.
 - k.
-
- d.
 - e. Nevada
 - f. County General Plan has several local objectives and policies to protect biological resources (Chapter 6, Chapter 13)
 - g.

- e.
- f. GRADING:
- g. See Geology and Soils section
- h.
- i.
- j.

4. Geology and Soils

- a.
- b. Erosion
- c. Control through local grading regulations: This Article [13] sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes standards of required performance in preventing or minimizing
- d. water quality impacts from stormwater runoff; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction, drainage, and erosion and sediment controls at construction sites

e. *(Nevada County Land Use and Development Code, Article 13) **

f.

- b.
- c. Per
- d. the Water Board Cannabis General Order - all cultivators must obey the specific criteria used to evaluate the threat to water quality based on:

e.

f.

i.

ii. Slope

iii. of disturbed area: Increased slopes may be associated with decreased soil stability, especially when associated with vegetation removal. Storm water and excess irrigation water are more likely to runoff and discharge off-site from sloped surfaces.

iv.

v.

vi. Proximity

vii. to a surface water body: Riparian setbacks from surface water bodies generally reduce impacts to water quality. Disturbed areas within the riparian setbacks are more likely to discharge waste constituents to surface water, therefore, any sites that cannot

viii. meet the riparian setback requirements are considered to be high risk sites.

ix.

x.

xi.

xii. For

xiii. each site, risk determination is done based on the characteristic that poses the greatest threat to water quality.

xiv.

g.

*(Water Board Cannabis Cultivation Policy 10.17.17)**

c.

d. **Local**

e. **Industry Insight**

f. -

g.

h.

i. In

ii. partnership with South Yuba River Citizens League, the Alliance has been providing education and promoting best management practices on soil management to the community. *

iii.

iv.

v. Importing

vi. soils is becoming cost prohibitive for farmers and it is common for farmers to amend the native soil naturally through organic composting and effective use of cover crops. By utilizing soil best management practices cultivation operations are sequestering

vii. carbon. This is helping to rebuild farmlands within the community. CDFA has healthy soil grant programs to further encourage this concept. *

viii.

ix.

x.

xi. Many

xii. full season outdoor farmers will work their soil in the spring then plant and leave it untouched until the Fall. This method has less soil tillage and disturbance than intensive vegetable farmers. It is a common practice amongst Local cannabis farmers are

xiii. encouraged to utilize cover crops which help to build healthy soil, hold moisture, help with runoff, fix nitrogen etc. *

xiv.

xv.

xvi.

xvii.

xviii.

xix. 5.

xx. **Hydrology and Water Quality.**

Water is life and a key element to human life as well as all other life on this planet. We treat our water usage with this in mind. The Craft farmer doesn't use toxic chemicals on their plants or in their soil. There are many reasons for this but one obvious reason is to protect water quality. Another priority is to maximize our use of water. We do this through many practices such as when we water, we water in early morning to avoid excess evaporation from the heat of the day. We focus on building the life in our soil which naturally makes the soil better at absorbing and holding water, as well as using it more efficiently. We mulch our beds with organic matter which helps reduce evaporation and retain water. We always have some kind of plants growing (non cannabis) that will help hold water in the soil, through all seasons. We plant annual cover crops and "living cover crops" which are perennial plants that grow low in the understory of the cannabis and attract healthy biology and retain water.

- a.
- b. All
- c. Premises used for the Cultivation of Cannabis shall have a legal and permitted water source on the Parcel and shall not engage unlawful or unpermitted drawing of surface water or permit illegal discharges of water from the Parcel
- d. *(Nevada*
- e. *County Draft Cultivation Ordinance Sec 1.4, C10).*
- f. *
- g.

- a.
- b. All
- c. Premises used for the Cultivation of Cannabis shall have a legal and permitted sewage disposal on the Parcel and shall not engage in unlawful or unpermitted drawing of surface water or permit illegal discharges of water from the Parcel
- d. *(Nevada County Draft Cultivation Ordinance Sec 1.4, C11).**
- e.

- a.
- b. Any
- c. Hazardous Materials stored shall maintain a minimum setback distance of 100 feet from any private drinking water well, spring, water canal, creek or other surface water body, and 200 feet from any public water supply well. *(Nevada County Draft Cultivation Ordinance Sec 1.4 C 9).**
- d.
- e.

- a.
- b. Local
- c. Land Use Code states that the enforcement agency may designate areas where groundwater
- d. quality
- e. problems are known to exist and where a well will penetrate more than one aquifer. The enforcement agency may require special well seal(s) in these designated areas to prevent mixing of
- f. water
- g. from several aquifers. (Nevada County Land Use Code Sec. L-X 2.17 Special Groundwater Protection
- h.)*
- i.

- a.
- b. Regulated
- c. Cannabis Cultivation requires:
- d.
- e.
 - i.
 - ii. Compliance
 - iii. with *State*
 - iv. *Water Resources Control Board, Division of Water Rights* which
 - v. includes obtaining and complying with applicable permits, licenses, registrations and annual

filings. Compliance with the the annual filing of a statement of diversion and use of surface water from a stream, river, underground stream, or other watercourse

vi. required by Water Code Section 5101.*

vii.

viii.

ix. Full

x. compliance with Central Coast Water Quality Control Board.

xi.

xii.

xiii. For

xiv. cultivation areas for which no enrollment pursuant to Central Coast Water Quality Control is required, the site shall comply with the standard conditions set forth in that Order, as well as the applicable "Best Management Practices for Discharges of Waste

xv. Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects" as presented in Appendix B of the Water Board Order. *

xvi.

f.

a.

b. All

c. cannabis farmers must comply with the Water Board Policies. The purpose of the Water Board Cannabis Cultivation Policy is to ensure that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on

d. water quality, aquatic habitat, riparian habitat, wetlands, and springs.

e. (Water

f. Board Policy Oct 17, 2017) *

g.

- a.
- b. **Industry**
- c. **Insight**
- d.

e.

- i.
- ii. Common

iii. industry practice include drip irrigation and use of micro sprinklers. Mulching is also a common local practice to retain water.

iv.

v.

vi. Water

vii. saving practices are generally used because cannabis farmers must remain diligent as to not create conditions for mold or mildew.*

viii.

f.

6. Land Use and Planning

i.

- c.
- d.
- e.
- f. Local
- g. commercial cannabis cultivation has been approved by the Board of Supervisors, on land designated for agricultural use and forestry. Given that cannabis is a farmed crop, it has been placed in appropriate zoning according to the Nevada County general plan.

- h.
- i.
- j.

i. According

iii.

iv.

- 1.
2. Chapter
3. 16, Agriculture - Objective 16.2 Maintain and encourage agriculture on lands zoned for agricultural use, especially those which border Community Regions, while minimizing conflicts with adjacent non agricultural lands.
- 4.
- 5.
6. Chapter
7. 16, Agriculture, Goal 16.1 Encourage the use of significant agricultural lands and operations in Rural Regions.
- 8.
- 9.
10. Objective
11. 16.1 Identify and encourage the use of significant agricultural lands based on soil type and suitability for various forms of agriculture.
- 12.
- 13.
14. Objective
15. 16.3 Minimize and reduce pressures to convert lands zoned for agricultural use to more intensive uses.
- 16.
- 17.
- 18.
19. Objective
20. 16.4 Identify the appropriate parcel sizes on lands zoned for agricultural use that provide for a range of agricultural operations that may be carried on in those zones.
- 21.
- 22.
- 23.

24.

ii. to the Nevada County general plan:

25.

26.

27.

28. **7. Transportation and Traffic**

29. vary based on the season. The average Craft Farmer consists of 2-3 full time workers, which often at least 1-2 of the workers live on site. There are often consecutive days that driving off site for work related purposes doesn't happen. I drive to town more

30. often to take my children to school. In the fall season, or harvest seasons (which may vary depending on how that farm operates, could be several harvests a year) there has historically been more traffic. This usually is a time frame of 1-3 weeks or sometimes

31. 4-5 max. This, however is all subject to change in regards to processing may for most farms, happen now off site. In this case, the "busiest" time for traffic historically may disappear all together.

32.

33.

34.

35.

36.

37.

a.

b. Cannabis

c. Cultivation shall not adversely affect the health, safety, or general welfare of persons at the Cultivation site or at any nearby residence by creating dust, glare, heat, noise, noxious gasses, odor, smoke,

d. **TRAFFIC,**

e. light, or vibration, by the use or storage of hazardous materials, processes, products or wastes, or by any other way.

f. (Nevada

h.

g. County Draft Cultivation Ordinance Section 1.4 C) *

38.

39.

40.

- b.
- c. Also
- d. see [Sec.](#)
- e. [G-IV 3.B.1 Load Limit of Roads and Bridges Established*](#)
- f.

- c.
- d. To
- e. the extent commercial cultivation will be considered home businesses, current regulations state the no more than 6 business-related vehicle trips (round trips) per day are permitted.
Business related
- f. **TRAFFIC**
- g. trips shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday.
- h. *(Nevada*
- i. *County Land Use Code Sec. L-II 3.11 Home Businesses)**
- j.

- d.
- e. The
- f. requirement that all cultivation operations identify a water right sufficient to irrigate the cultivated area will reduce the potential to rely

on water delivery and thus reducing PM10 and vehicle emissions from truck traffic to remote cultivation sites.*

g.

e.

f. Given

g. the dispersed nature and generally small size of individual cannabis cultivation operations, substantial increases in traffic are expected to be low.*

h.

8. Energy Conservations

Beginning January 1, 2022,
an application for renewal of a license shall include
the following records for each power source
indicated on the application for licensure for the
previous annual licensed period:
*(CDFA Proposed Cultivation Ordinance, Sec 8203,
Renewal of
License)**

k. v.

- 1.
2. Total
3. electricity supplied by local utility provider, name of local utility provider, and greenhouse gas emission intensity per kilowatt hour reported by the utility provider under section 398.4(c) of the Public Utilities Code for the most recent calendar year available
4. at time of submission;
- 5.
- 6.
7. Total
8. electricity supplied by a zero net energy renewable source, as set forth in section 398.4(h)(5) of the Public Utilities Code, that is not part of a net metering or other utility benefit;
- 9.
- 10.
11. Total
12. electricity supplied from other unspecified sources, as defined in 398.2(e) of the Public Utilities Code, and other on-site sources of generation not reported to the local utility provider (e.g., generators, fuel cells) and the greenhouse gas emission intensity
13. from these sources;
- 14.
- 15.
16. Average
17. weighted greenhouse gas emission intensity considering all electricity use in subsections (1), (2), and (3).*
- 18.

c.
d. All

- e. cultivation applications must include the specific power source for all cultivation regulations - including, but not limited to illumination, heating, cooling and ventilation (CDFA
- f. *Proposed Cultivation Regulations, Sec 8102,S, Annual License Requirements**
- g.

- c.
- d. Beginning
- e. January 1, 2023, all indoor, tier 2 mixed-light license types of all sizes, and nurseries using indoor or tier 2 mixed- light techniques, shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas
- f. emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program, division 1, part 1, chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code. As evidence of meeting
- g. the standard, licensees shall comply with the following: (CDFA
- h. *Proposed Cultivation Regulation, 8305. Renewable Energy Requirements)*
- i.

(a) If a licensee’s average weighted greenhouse gas emission intensity as provided in section 8203(g)(4) is greater than the local utility provider’s greenhouse gas emission intensity, the licensee shall provide evidence of carbon offsets from anyof the following sources to cover the excess in carbon emissions from the previous annual licensed period:

(1) Voluntary greenhouse gas offset credits purchased from any of the following recognized and reputable voluntary

- d.
- e. carbon
- f. registries:
- g.
- h.
- i.
- 1.
- 2. (A)
- 3. American Carbon Registry;
- 4.
- 5.
- 6. (B)
- 7. Climate Action Reserve;
- 8.
- 9.
- 10. (C)
- 11. Verified Carbon Standard.
- 12.

- j.
- i. (2)
- ii. Offsets purchased from any other source are subject to verification and approval by the Department.
- iii.
- iv.
- v. (b)
- vi. New licensees, without a record of weighted greenhouse gas emissions intensity from the previous calendar year, shall report the average weighted greenhouse gas emissions intensity, as provided in section 8203(g)(4), used during their licensed period at the
- vii. time of license renewal. If a licensee's average weighted greenhouse gas emissions intensity is greater than the local utility provider's greenhouse gas emissions intensity for the most recent calendar year, the licensee shall provide evidence of carbon offsets
- viii. or allowances to cover the excess in carbon emissions from any of the sources provided in subsection (a).*
- ix.
- k.

Conclusion

The Craft Farmer is deeply concerned with the greater good of life. When we match the sustainable practices that we already utilize with the new regulations of this coming industry we will be able to achieve our goals in a respectful way that will prove to be relatively low impact to the environment surrounding the farm, and in certain cases, even improve the general health of the surrounding land. This is a new day for us, where we are happy to be in the light of regulations (as long as they are reasonable) so that we can share our practices and our products with our community and world. Our lives are dedicated to preservation, whether it be plants or natural spaces. Thank you for helping us continue this process in a good way, we are happy to be in collaboration.

Thanks for your time

David J. Cooper



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



September 6, 2018

Brian Foss
Planning Director
Nevada County Planning Department
950 Maidu Avenue
Nevada City, CA 95959

Dear Mr. Foss:

Subject: Nevada County Commercial Cannabis Cultivation Ordinance
NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT
REPORT SCH# 2018082023

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Preparation (NOP) from the Nevada County Planning Department regarding the Draft Environmental Impact Report (DEIR) for the Nevada County Commercial Cannabis Cultivation Ordinance (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California's fish and wildlife resources. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code (Fish & G. Code).

CDFW Role

CDFW is California's **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Id., § 1802.) Similarly, for purposes of CEQA, CDFW is charged to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required. CDFW also administers the Native Plant Protection Act, Natural Community Conservation Act, and other provisions of the Fish and Game Code that afford protection to California's fish and wildlife resources.

Project Description

The proposed project is located in the unincorporated areas of Nevada County (County). The County is bounded by Sierra County and Yuba County on the north, Yuba County on the west, Placer County on the south, and the state of Nevada on the east. Nevada County's total land area is 958 square miles, of which approximately 70% is privately owned and approximately 30% is public lands. Development within Nevada County consists of a mixed land use pattern and includes residential, commercial, industrial, agricultural, and public uses. Nevada County consists of numerous urbanized areas as well as rural residential, commercial, industrial, open space, and many areas used for agriculture. There are three incorporated cities within the County including Grass Valley, Nevada City, and Truckee. The proposed Nevada County Commercial Cannabis Cultivation Ordinance would not apply to these incorporated areas.

The Project description in the DEIR should include the whole of the action as defined in the California Code of Regulations, Title 14, section 15000 et seq. (CEQA Guidelines), section 15378, and should include appropriate detailed exhibits disclosing the Project area including temporarily impacted areas such as access roads and staging areas.

As required by section 15126.6 of the CEQA Guidelines, the DEIR should include an appropriate range of reasonable and feasible alternatives that would feasibly attain most of the basic Project objectives and avoid or minimize significant impacts to the natural resources under CDFW's jurisdiction impacted by the Project.

Environmental Setting

The DEIR should include a complete assessment of the existing biological conditions within the area that would be affected either directly or indirectly as a result of the Project, including, but not limited to, the type, quantity, and locations of the habitats, flora, and fauna. Adequate mapping and information regarding the survey efforts should be included within the DEIR. All surveys as well as the environmental analysis should be completed by qualified Project personnel with sufficient experience in the work performed for the Project.

To identify a correct environmental baseline, the DEIR should include a complete and current assessment of the habitats, flora, and fauna within the Project area. This analysis should include endangered, threatened, candidate, and locally unique species expected to be or potentially be in the Project area. CEQA Guidelines, section 15125, subdivision (c)

requires lead agencies to place special emphasis on any environmental resources that are rare or unique to the area. This includes, but is not limited to, sensitive habitats and biological resources such as vernal pools, streams, lakes, riparian habitat, oak woodland, open grasslands; and special status species that are known to be present within the Project boundaries or its vicinity.

CDFW recommends that the California Natural Diversity Database (CNDDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. Recent surveys for the different species that have the potential to be present within the project limits and its vicinity should be included. Additional information regarding survey protocols can be obtained by contacting CDFW.

CDFW recommends that species-specific surveys should be conducted to determine the presence of special status species within the Project vicinity. The lead agency should use survey protocols previously approved by CDFW.

Impact Analysis

The DEIR should clearly identify and describe all short-term, long-term, permanent, or temporary impacts to biological resources, including all direct and foreseeable indirect impacts caused by the proposed Project, including growth inducing impacts. The impacts identified in the DEIR should encompass all the phases of the Project, including planning, acquisition, development, operation, and ongoing maintenance. This includes facilities maintenance activities, fire abatement activities, and any other activity that could potentially impact biological resources.

The DEIR should define the threshold of significance for each impact and describe the criteria used to determine whether the impacts are significant (CEQA Guidelines, § 15064, subd. (f).) The DEIR must demonstrate that the significant environmental impacts of the project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context.

The DEIR should incorporate mitigation performance standards that would ensure that significant impacts are reduced as expected. Mitigation measures proposed in the DEIR should be made a condition of approval of the Project. Please note that obtaining a permit from CDFW by itself with no other mitigation proposal may constitute mitigation deferral.

CDFW recommends that the environmental documentation provide scientifically supported discussion regarding adequate avoidance, minimization, and/or mitigation measures to address the Project's significant impacts upon fish and wildlife and their habitat. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines Section 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions.

Land Conversion

Project activities that result in land conversion may also result in habitat loss for special status species or fragmentation of sensitive habitat. Loss of habitat to development and agriculture are contributing factors to the decline of special status species. CDFW recommends that the DEIR address land conversion impacts due to Project activities and restrict conversion of special status species habitat to cannabis cultivation.

In addition, CDFW recommends Project proponents conduct a biological assessment prior to new ground disturbing activities to determine impacts to biological resources that may occur on each site and determine if focused biological surveys are warranted. All focused biological surveys would need to be conducted well in advance of any ground disturbance in preparation for project-related activities and be conducted by qualified wildlife biologists and/or botanists during the appropriate survey periods in order to determine whether or not any special status species may be present within the proposed project areas. Survey results can then be used to identify existing conditions including habitats and species in the impact areas as well as within an appropriate buffer around impact areas. This would inform project proponents of permitting needs.

CDFW recommends new cannabis cultivation sites be restricted to existing disturbed agricultural land or be fully mitigated on a per project basis.

Threatened, Endangered, Candidate Species and Rare Plants

The Project area as shown in the NOP includes habitat for several state and federally listed species. If during the environmental analysis for the Project, it is determined that the Project may have the potential to result in "take", as defined in the Fish and Game Code, section 86, of a State-listed or candidate species or a rare plant, the DEIR should disclose that an Incidental Take Permit (ITP) or a Consistency Determination (Fish & G. Code, §§ 2080.1 & 2081) may be required prior to starting construction activities. The DEIR should include all avoidance and minimization measures to reduce the impacts to a less than significant level. If impacts to listed species are expected to occur even with the implementation of these measures, mitigation measures should be proposed to fully mitigate the impacts to State-listed species (Cal. Code Regs., tit. 14, § 783.2, subd.(a)(8)). Authorization for take of rare plants may also be provided through an ITP pursuant to Cal. Code Regs., tit. 14, § 786.9, subd.(b).

CDFW encourages early coordination to determine appropriate measures to offset Project impacts and facilitate future permitting processes and to allow adequate time for coordination with the U.S. Fish and Wildlife Service regarding specific measures if federally-listed species, and State and federal dually listed species are present within the Project limits.

Species Scoping

Please be aware that the CNDDDB is a positive-occurrence database. The majority of private lands have not been surveyed for special-status species, and thus, will not be accurately represented by the CNDDDB. Species presence/absence and any potentially significant impact is best determined by field verification.

Water Courses and Wetlands

Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may: substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. The DEIR should identify all the areas within the Project boundary that are subject to Fish and Game Code section 1602. These areas include all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state and any habitats supported by these features such as wetlands and riparian habitats. If any of these features are found within the Project area, CDFW recommends that the lead agency prepare a map delineating all features to identify any potential significant impacts to these resources. The map should include a delineation of lakes, streams, and associated habitat that will be temporarily and/or permanently impacted by the proposed Project including an estimate of impact to each habitat type. Please note that the extent of CDFW's authority differs from other agencies such as the U.S. Army Corps of Engineers or the Regional Water Quality Control Board. The DEIR should identify different areas present for each agency's regulatory authority.

If the map identifies that the Project would impact areas subject to Fish and Game Code section 1602, the DEIR should propose mitigation measures to avoid, minimize, and mitigate impacts to these resources.

Migratory Birds and Birds of Prey

Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C., §§ 703-712). CDFW implemented the MBTA by adopting the Fish and Game Code section 3513. Fish and Game Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Potential habitat for nesting birds and birds of prey is present in the Project area. The DEIR's Project Description should disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the Project footprint and its close vicinity. Appropriate avoidance, minimization, and/or mitigation measures to avoid the take should be included in the DEIR. Measures to avoid the impacts should include species specific construction windows; biological monitoring, installation of noise attenuation barriers, etc.

Water Supply

Water use estimates for cannabis plants are not well established in literature and estimates from published and unpublished sources range between 3.8 liters and 56.8 liters per plant per day. Based on research and observations made by CDFW in northern California, cannabis grow sites have significantly impacted streams through water diversions resulting in reduced flows and dewatered streams (Bauer, S. et al. 2015). Groundwater use for clandestine cannabis cultivation activities have resulted in lowering the groundwater water table and have impacted water supplies to streams in northern California.

CDFW recommends that the DEIR address the impacts to groundwater and surface water that may occur from Project activities.

Pesticide Use

The United States Environmental Protection Agency (U.S. EPA) regulates pesticides at the Federal level and the California Department of Pesticide Regulation (DPR) regulates pesticides on the State level. There are currently no pesticides registered specifically for use directly on cannabis. Based on DPR guidance, the only pesticide products not illegal to use on cannabis are those that contain an active ingredient that is exempt from residue-tolerance requirements and (1) registered and labeled for use that is broad enough to include use on cannabis (e.g. unspecified green plants) or (2) exempt from registration requirements as a minimum risk pesticide under Federal Insecticide, Fungicide, and Rodenticide Act section 25(b) and 3 California Code of Regulations § 6147. Refer to DPR for additional pesticide regulations.

CDFW recommends that the DEIR address the use of pesticides including the risk of secondary poisoning to native species caused by the use of rodenticides by establishing grow site selection criteria which preclude cultivation in or next to special status species habitat.

Cumulative Impacts

The DEIR should discuss cumulative impacts to environmental resources and determine if the Project's incremental contribution would be cumulatively considerable. If the Lead Agency determines that the incremental effect is not cumulative the DEIR should include a brief explanation for concluding that no significant cumulative impacts would result with the implementation of the Project (CEQA Guidelines, § 15130, subd. (a)).

The DEIR should include a list of present, past, and probable future projects producing related impacts to biological resources (list method) or should include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect (projection method).

If the Projects list method is selected, the DEIR should include a definition of the geographical areas affected by each cumulative effect. If the projection method is selected by the Lead Agency, the DEIR should include pertinent information that ensures that the Project is consistent with the plans that are used in the analysis and that there are no other projects that are inconsistent with the plan that may contribute to cumulative impacts to natural resources under CDFW's jurisdiction.

The DEIR should include a discussion of the severity of each cumulative effect and propose adequate feasible and reasonable mitigation measures for the Project's contribution to each significant effect to environmental resources including biological resources.

Mitigation, Reporting and Monitoring

Mitigation measures should establish performance standards to evaluate the success of the proposed mitigation, provide a range of options to achieve the performance standards, and should commit the lead agency to successful completion of the mitigation. Mitigation measures should also describe when the mitigation measure will be implemented, and explain why the measure is feasible. Therefore, CDFW recommends that the DEIR include measures that are enforceable and do not defer the details of the mitigation to the future.

If mitigation measures are required as part of the Project, the lead agency must prepare a mitigation monitoring or a reporting program to ensure the implementation of these measures (CEQA Guidelines, § 15097). CDFW recommends that the mitigation monitoring and reporting program is included in the DEIR to allow CDFW, and any other trustee or responsible agency, and the members of the public to provide input to the Lead Agency.

Environmental Data

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

Filing Fees

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative,

vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

Conclusion

Pursuant to Public Resources Code §21092 and §21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the proposed project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670.

CDFW appreciates the opportunity to comment on the NOP to assist in identifying and mitigating Project impacts on biological resources. CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts. Questions regarding this letter or further coordination should be directed to Kyle Stoner, Senior Environmental Scientist (Specialist) at (916) 767-8178 or Kyle.Stoner@wildlife.ca.gov.

Sincerely,



Jeff Drongesen
Environmental Program Manager

ec: Tina Bartlett, Tina.Bartlett@wildlife.ca.gov
Jeff Drongesen, Jeff.Drongesen@wildlife.ca.gov
Kursten Sheridan, Kursten.Sheridan@wildlife.ca.gov
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James Rosauer, James.Rosauer@wildlife.ca.gov
Department of Fish and Wildlife

State Clearinghouse, State.Clearinghouse@opr.ca.gov

Literature Cited

Bauer, S. Olson, J., Cockrill, A., van Hattem, M., Miller, L., Tauzer, M., et al. 2015. Impacts of Surface Water Diversions for Cannabis Cultivation on Aquatic Habitat in Four Northwestern California Watersheds. PLoS ONE 10(3): e0120016.
doi:10.1371/journal.pone.0120016.

Hengl, Tasha

From: Diana Veneski <dveneski@icloud.com>
Sent: Saturday, August 11, 2018 8:57 AM
To: Planning
Cc: Diana Veneski
Subject: cannabis ordinance

Like so many things, legal cannabis and the ordinances surrounding it are a mixed curse and blessing. I live in a forested area, and I hope that one of the main things that legalizing cannabis will accomplish is a diminishing of forest destruction by illegal growers. So the needs to raise revenue from cannabis and the other ordinances surrounding it need to be such that it is impractical for growers to initiate or to continue illegal grows.

That having been said, I think there are problems to be faced concerning impaired individuals who are driving or who may otherwise put others in danger. A reliable test for cannabis impairment really needs to be developed for those who may be driving while impaired. Also, the unpleasant odors that are emitted from local growers and processors are a nuisance. These concerns need to be addressed in any ordinance that is adopted.

Thank you for allowing public comment on this matter.

Diana Veneski
dveneski@me.com

Hengl, Tasha

From: Diane Mackey <deedee.mackey@gmail.com>
Sent: Monday, September 10, 2018 8:08 AM
To: Planning
Subject: , "Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments"

To Whom It may Concern

I have several concerns about the Cannabis Cultivation in Nevada County. I live here in the Lake of the Pines Ranchos.

1. I do think that our property values will drop if we have a cannabis farms near our properties.
2. Concerned about our wells, rivers and streams getting contaminated and polluted from the pesticide's and fertilizer.
3. The odor will effect our enjoying the outdoors.
4. The increase number of people and traffic in area.
5. Concerned how the county will have enough time and employees to enforce all the regulations.

Thank you for your considerations.

Diane Mackey
27745 Table Meadow Rd.
Auburn, ca



September 1, 2018

Brian Foss
Nevada County Planning Department
950 Maidu Ave
Nevada City, CA 95959

Subject: Ordinance and EIR on Pot Growing

Gentlemen,

As a resident and property owner of five acres along Greenhorn Creek below the You Bet Bridge, I am concerned with the growing of cannabis. Currently I know of 3 sites with greenhouses growing cannabis, all on lots that slope and drain toward Greenhorn Creek. And if I can see these three from my house, I wonder how many more are actually there.

CC&Rs for my property prevent me from keeping livestock on my property because it drains toward the creek and Lake Rollins, so why shouldn't similar restrictions apply to pot growers. It is well understood that cannabis cultivation uses or can use dangerous chemicals, and that this cultivation is also, or often is, a high user of water, often illegal use of water. These above two situations (chemicals and water use) endanger our water supply, and put the lake that is designated as a "recreational facility" in harms way. We and our kids and grandkids swim and waterski in Lake Rollins. We want the water to be safe.

The laws, policies, and actions of your department and all involved agencies, including NID, should actively address and control, if not prevent, growing of cannabis on areas that drain into Greenhorn Creek and Lake Rollins.

Regards and sincerely expecting your aggressive action.

A handwritten signature in black ink that reads "A. D. Meares".

Arthur D. Meares

A handwritten signature in black ink that reads "Donna A. Meares".

Donna A. Meares
14203 Frederick Way
Grass Valley, CA 95945
530 273 8447

CC: Greg Jones, Nevada Irrigation District, NID
California Department of Water Resources

Hengl, Tasha

From: Eileen Grider <steeil@pacbell.net>
Sent: Tuesday, August 21, 2018 2:48 PM
To: Planning
Subject: Commercial grows

To Whom It May Concern,

I am writing to share my concern about the potential for Commercial growing in the LOP Rancho area. We co-own a home with our daughter on 5 acres. We have numerous ranch animals as well as our first grand child on the way.

I believe the home values will decline and that the crime rate will also increase due to the sales of these grows. I do not believe that it is right for commercial grows to be allowed on small acreage (5 acres are in LOP Ranchos) where you are in close proximity to your neighbors and their families and animals. If commercial grows are considered I believe they need to own a lot more acreage in order to stay away from other neighboring properties.

I have a family member who is extremely negatively effected by cannibas, thus by allowing a commercial to grow by our residence he may have an adverse effect on him and become extremely ill again. This is not right and I am hoping that the majority of those making the decision about the commercial grows in this area will vote NO. We also have 2 horses that enjoy riding the 20 miles of trails there and it's not right that those wanting to do a commercial grow be allowed when other people's horses may come into contact and become ill from it.

Thank you

Eileen Grid

Gary M. Baker
12373 Creek View Drive
Grass Valley, Calif. 95949

September 9, 2018

Nevada County Planning Department
950 Maidu Ave.
Nevada City, California 95959

Via: Email: planning@co.nevada.ca.us

Cc: emailinfo@nccannabisalliance.org

Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping
Comments - Comment Period: Aug 10, 2018 – Sep 10, 2018 (by 5pm)

Dear Nevada County Planning Department:

In response to your request for comments for the EIR scoping related to the Draft Cannabis Ordinance, the following information is provided for your consideration. I have attended and presented at numerous public hearings on the matter and attended all but one of the CAG Meetings. I have also, reviewed the Draft Ordinance and previous County Cannabis Ordinances, as well as several other county ordinances including: Santa Barbara, Monterey, Humboldt and Mendocino counties and some of the EIR's, the State Cannabis Regulations, the 200 page report prepared for the State by ERA, portions of the State EIR on the Cannabis Regulations and numerous other documents including the State Water Board and many other agency documents, in all over 200 documents related to cannabis regulation in the State. I am therefore up to date on this complex topic and I also understand that each agency has a different approach on how to accomplish regulation within their jurisdiction.

Personally, after spending over 30 years in civil engineering and land development, followed by 5 years with a notable land use attorney, not only have I read and commented on many EIR's, I have also had the opportunity to write sections of these documents and on several occasions, hire and coordinate the EIR team on large projects in locations like Los Angeles County where the developer prepares their own documents. These land development projects were all located in California, some on lands that we owned, about 20,000 acres, or as a consultant on another 20,000 acres consisting of various size

projects. CEQA, which was adopted in 1970, just 2 years before my first job in civil engineering, which was with a small city in Southern California. So I grew up in a transitioning culture where land planners were just coming onto the scene, and then spent many more years working with planners developing new communities. Currently I am working on a 12,000 acre fully self-sustainable new community. In addition, my firm provides consulting services for cannabis cultivators which include economic feasibility analysis as well as Water Board and State permitting assistance. As California Licensed Landscape Architects our firm is approved to prepare required documents such as erosion control, sediment control, site disturbance stabilization plans and site closure reports that meet the requirements of the Water Board and CDFA CalCannabis.

I believe the major comments addressed below are pertinent to the EIR scoping discussion. The three primary points are numbered below and a discussion for each of these main points follows:

1. Establishing the Baseline Condition

2. Economic Impacts of Cannabis Ordinance

3. Adding RA-Rural as Alternative Project

- RA-Rural Zoning
- Definitions of Residential Neighborhoods
- Discussion on RA-Rural Zones
- Commercial Cannabis Prior to 2018
- Conclusion

Discussion:

1. Establishing the Baseline Condition

The baseline condition should address the true existing conditions before the evaluation of the impacts of any new project. Currently there are estimated to be between 3,000 to 3,500 existing cannabis cultivation operations in Nevada County. Collectively these operations employ up to 10,000 people in the County either directly or indirectly. Cannabis businesses have been operating in Nevada County for about 50 years. The impacts of cannabis cultivation on the water supply, air quality, noise, traffic, water discharges have already occurred and are the baseline condition. These include impacts to county services including law enforcement as well social services. The impacts of cannabis cultivation are also generally known to neighbors and the local schools, and whether these activities were permitted or not, they currently exist, none-the-less.

Several cannabis ordinances have been passed in the County over the years allowing for certain size grows (plant count or square feet of canopy), dependent on lot size and zoning. These ordinances have been ignored by many of the cultivators in the past. In other parts of the State, numerous other ordinances written by other California counties or local jurisdictions, have also been ignored by growers in those locations..

Large illegal grows have been located in Nevada County on public lands and in some instances located on properties without the owner's knowledge or consent. These types of grows have caused serious problems locally and in many parts of the state and are often massive criminal operations. These grows would not be considered part of the 3,000 to 3,500 grows which are typically local residents, who own their land or have the property owner's permission to cultivate on their property. Based on information derived from the State EIR for cannabis prepared in 2016, there were some 68,000 cannabis farms in the State and based on the total amount of cannabis production from all of the operations, the average cannabis farm size was determined to be about 2,000 square feet.

Cannabis cultivation has caused problems throughout the State with illegal water draws, watershed and stream pollution, high use of power, silting from unauthorized grading and poisoning of wildlife, to name just a few. Locally, issues related to water and site discharge appear to be the most significant environmental problems with cannabis cultivation. However, when addressing the impacts of the "Project" in the EIR, since many of the activities being discussed are already existing conditions, the overall impacts of the "Project" may actually be less than the existing condition. While establishing ordinances to limit cannabis cultivation to certain sizes on certain lots has been utilized by local governments throughout the State to control cannabis, it must be recognized that these efforts have never been successful. Some percentage will operate outside of regulation. Who and how many is difficult to determine but the impacts of these "Unregulated" growers must also be considered in the EIR.

The State EIR was very silent on the issue of smell for cannabis operations and passed to burden to local government to address. Another local issue that has been raised has been the migrant worker influx during the trimming season. The state provides some level of guidance for the working conditions and access to toilets etc., but the housing and other needs of the seasonal workers has not been addressed.

Traffic from cannabis cultivation does not appear to be much of a significant problem, as many growers do not commute to other jobs, but rather work at home. Eliminating cultivation may force more people to drive to a job, which may have farther reaching impacts. Illegal water diversion is illegal, and those activities should be halted as well as illegal discharges, and setbacks from watercourses should be enforced. These activities are where enforcement is needed. The whole zoning, plant count/canopy size, property

line setbacks and other regulatory requirements both at the State level as well as locally are far beyond what any other business activity requires in the United States, except for maybe constructing a new nuclear power plant.

It will be the economics of cannabis cultivation, which at the end of the day will likely be the determining factor on how many cultivation sites will remain in the county. Small operators have a disadvantage competing in the statewide legal market. Small operations that hid in the shadows which made up a large portion of growers in the past, will not be able to compete in the legal market without licenses. Local licensed growers will be vying for shelf space in dispensaries against large well-funded growers with high profile name brands. Prices for wholesale cannabis have been declining for several years and the cost of permits and compliance are very high. These factors will have an impact on local growers when trying to compete in the regulated market, which may initially leave at least some, still operating in the unregulated market. Throughout the state unregulated cannabis cultivation is expected to supply at least half of the legal market demand for at least the next 2 years before the regulated supply chain has enough capacity to serve the cannabis users in the state. Prices have fallen significantly for outdoor grown cannabis and many other states have adopted laws which allow for cannabis production, which will impact the demand for imported cannabis from California, which is illegal in any case.

So at least for the near term, the baseline being established for cannabis should include what is already here, what would be converted to higher yields (Larger Grow Sites), and what would remain as unregulated. Personal grows of 6 plants outdoors on some lots as well as 6 plants indoors, while not generally considered in the 3,000 to 3,500 existing cultivation sites, have a negligible impact outdoors (provided that they are not directly adjacent to a stream), but the indoor plants under lights will draw great amounts of electricity. Also indoor flooding from watering or water tanks which overflow have been known to cause some damage. Indoor growers also have problems with mold and an educational pamphlet should be made available for indoor growing for those who are growing for personal use.

Cannabis is an emotional subject and in many ways it seems that everyone who knows anything about this plant is an “expert” and “grows the best” cannabis, or can site all of the medical conditions that cannabis supposedly cures. Years ago people took great risk to grow cannabis, and the prices reflected that risk, and in most cases these would be considered small gardens, often hidden from view. Humboldt County was a great example, where an old timer recently pointed out that “Humboldt was not the best place to grow, but it was a good place to hide”.

When Proposition 215 passed, the collective model was born which provided some level of legal protection to the growers. Non Profit entities were formed by growers to provide medical patients with cannabis, which later led to the opening of store front dispensaries

in some locations. These original medical cannabis operations were viewed to be both supportive to those patients in need as well as providing some legitimacy to the growers providing cannabis to these patients. The system had flaws, but in concept medical cannabis was intentioned for the most part around helping people. In 2016 with the passage of the recreational cannabis initiative, medical and recreational have been almost entirely merged together. There are separate licenses for each but the applications and requirements are the same, while there may be some small tax break for medical users. But the real point is that those who have been in the cannabis cultivation for reason of compassion have been replaced generally by people who are the business for the money. Locally we should provide opportunities for people who want to grow for compassionate use, who either want to donate or may receive small compensation for their cannabis. These cannabis growers should be exempt from all these licensing and regulatory requirements, and if the grows are of small enough size should be allowed on land in all Residential Ag properties, as well as all agricultural properties.

Prohibition at all levels of government has been a failure. Regulation, while very onerous in its present form, is a path which many may follow, but from an environmental viewpoint, what is actually occurring or what is expected occur should be addressed at not just another ordinance which may or may not be followed by either by new or existing operators. Enforcement of existing regulations have not significantly impacted the number of cannabis operations in the county, and while new revenue from licensing may add to the enforcement, the environmental issues caused by these operations for the most part have not been abated or repaired. Utilizing better practices for cultivators in general would minimize the impacts of cannabis cultivation, probably more than new regulations that only some may follow.

2. Addressing Economic Impacts of Cannabis in the EIR

Over 10,000 people in Nevada County are employed in cultivation or directly related businesses, which means that as many as 1 out of every 8 people over 18 years of age is directly involved in cannabis. Since the average cannabis farm produces 200 pounds annually and that there are at least 3,000 cannabis farms in the County, gross sales of cannabis are least \$480 million dollars annually if cannabis sold for only \$800 per pound. Cannabis sales at about \$2,000 per pound for products shipped outside of California are normal. These are baseline conditions within the County and even though they are not permitted, they do exist today and the County as well as the cultivators and supporting businesses are dependent on the cash streams provided by these operations.

Some of these operations are located on RA-Rural properties and would be negatively impacted by the passage of an Ordinance which prevents legal cultivation on properties in this zone. The EIR should address the economic impacts for these properties as well as

other sites identified which would be excluded from participating in the State licensing program. The EIR must consider the impact on government services as a result of taking peoples businesses and livelihood away and the economic impact of losing such a large employer within the County including the impact on other local business. The EIR should also address how these jobs will be replaced, what type of job training will be provided and what level of resources will be made available to transition the cannabis industry employees into other types of employment. The EIR should also examine the need and location for new housing, infrastructure development and expansion of government services including education to support a job expansion project so that quality businesses can locate to Nevada County to provide new local jobs.

For over 50 years cannabis has been a part of Nevada County and it is now by far the largest employer. The County has enjoyed the benefits of the cash flow derived from cannabis and has done very little over the years to curtail the growth of numerous cannabis businesses. Now when there is real chance of legalizing a number of cultivations, more prohibitions are being considered for certain parcels and uneconomical grow sizes are being proposed on many sites. Cannabis cultivators in the regulated market will need to compete with operations throughout the State. Growing operations confined to 2,500 square foot facilities in many cases will not be profitable given all the fees and costs associated with regulation, and even 5,000 square feet facilities costs for production is generally more than a 10,000 site on a per pound basis. Prices continue to decline for cannabis, and establishing an entire permitting program is just a waste of resources and everyone's time if at the end of the day, if only a few can participate in the program or if anybody who does, losses money.

As a community we should be looking toward our future, and if that future does not include cannabis then alternatives must be developed and acted upon. But we must consider that transitioning from our existing cannabis dependent economy will take time, and just another ban is not going to solve the problem of finding meaningful employment for the 10,000 already engaged in this activity.

The County is not growing in population and since 2010 only about 375 new residents have either been born here or moved to Nevada County according to the State Census information. If we cannot provide and maintain current jobs, we will lose some population. Perhaps for some the current rate of growth is victory, as there are always some that oppose every single effort to bring in new development. As our infrastructure ages and more demand is placed on local government for services and costs increase for staff and funding pensions, the need to identify new revenue sources will become a bigger priority for the County. Just because we are a rural county does not mean that we can't have clean industry and quality jobs. We offer a lifestyle which is very attractive and we live in a very beautiful environment. We need to be open for business and not let this cannabis

discussion divert us from flourishing. Cannabis cultivation is not going away in this County and it is not a detriment for growth.

3. Adding RA-Rural Zoned Properties as an Alternative Project in the EIR

Please include the RA-Rural zoned parcels over 5 acres in size as an Alternative Project in the EIR which would allow for commercial cannabis cultivation consistent with the canopy areas as allowed on AG, AE and FR parcels on those parcels which meet the setback requirements.

It is estimated that the County has about 3,000 to 3,500 existing cultivation sites of which a portion are located in RA-Rural zoned areas. These parcels are typically under the radar and therefore usually not located adjacent to residential areas. From a practicable standpoint, if the county is going to allow commercial cannabis cultivation it should be allowed in areas where the activity is currently occurring consistent with the current ordinance in place. By allowing the most number of existing cultivators to participate in the legally permit program, on lots that currently allow for cultivation, demands on enforcement would be reduced. If specific RA-Rural or other AG parcels are located near residential areas, a reasonable setback buffer could be established like that used for schools, churches or day care centers or in areas of transition between one type of neighborhood and another.

All growers who have been engaged in the cultivation of cannabis, operating within the confines of an existing ordinance should have a chance of going legitimate and obtaining local and State permits. There will be plenty of growers who will not participate in the State and Local permitting process. By declining the opportunity to parcels where the activity is already established and operating under the existing rules, property owners could be financially damaged by new regulations which limit the economic use of their land.

The Draft Urgency Ordinance which was posted on May 17, 2018 has omitted RA-Rural properties from participation even though these properties are included in the existing cannabis cultivation ordinance. For the reasons that follow, we request that the County include RA-Rural properties which are 5 acres or more in the Urgency Ordinance and that these parcels are included in the Environmental Impact Report for commercial cannabis cultivation in Nevada County.

RA Rural Zoning

In the County zoning ordinance the following definitions are provided for the different parcel types found in the RA zones:

“Within Rural General Plan designations, agricultural operations and natural resource related uses and residential uses are of equal importance.” RA-Rural zoning

“Within the Residential and Estate General Plan designations, the single-family dwelling is of primary importance and agricultural uses are Secondary.” RA-Estate and RA-Residential zoning are distinctly different than RA-Rural zones

It is clear from these definitions, that RA-Rural properties are more than residential neighborhoods as they allow for many types of commercial land uses which are identical to uses allowed on AG zoned parcels.

The following Land Uses allowed in RA Rural and AG zoned parcels are not allowed in other Residential Zones in the County:

- Cemetery
- Agricultural uses and structures including, but not limited to, equipment storage structures, packing facilities for products grown on-site, wholesale plant nurseries, private stables
- Field Retail Stand and Farm Stand
- Certified Farmers’ Markets
- Stables, commercial
- Wineries
- Wildlife Rehabilitation Facilities
- Wood-yards
- Communication Towers

These uses clearly relate to the rural character of the areas and the zoning ordinance is very clear about the agricultural designation and allowable uses within the zones.

Definitions of Residential Neighborhood

- Cambridge Dictionary: Residential of or relating to houses where people live rather than place where they work.
- Merriam – Webster: Definition of Residential: used as a residence or by residents, restricted to or occupied by residences – a residential neighborhood
- Longman Dictionary: Residential, a residential part of town consists of private houses with no office or factories
- Business Dictionary: Residential, describing an area primarily used for housing

- Bankrate: Residential real estate is an area developed for people to live on. As defined by local zoning ordinances, residential real estate cannot be used for commercial or industrial purposes.

There is a consistency in all of these definitions that makes a residential neighborhood distinctly different than rural neighborhoods where commercial activities are allowed, particularly as they relate to growing and agriculture.

Discussion on RA-Rural Zones

It is clear that in all definitions shown above, that the residential zoning designation is distinctly different from commercial properties and that RA –Rural designated zones are not true residential neighborhoods. Since they are not primarily residential areas as defined due to the commercial activities which are permitted, they more closely resemble AG which allow similar land commercial uses and also have homes.

Not all RA-Rural properties are adjacent to primarily residential areas. Several planned communities exist which include RA-Rural zoned parcels. In the instance of Alta Sierra, Lake of the Pines and Golden Oaks, homeowners associations with CC&R's provide restrictions which control property uses regardless of the underlying zoning. These communities have the ability to legally control behavior and can elect to not allow commercial cannabis cultivation on properties within the boundaries of their homeowners association consistent with their by-laws.

The current zoning ordinance (ordinance 2416) treats RA-Rural designated parcels the same as parcels in the AG, AE, FR and TPZ zones, relating to cultivation of cannabis with the same plant counts, lot size requirements and setbacks. The CAG recommendations also included RA-Rural properties along with AG, AE, and FR zoned properties for appropriate locations for commercial cultivation with the same size limits, setbacks and lot size requirements. The CAG meetings provided significant opportunity for public comment regarding zoning, lot size, grows size and setbacks and the Members of the group discussed each of these items at great length. All Group Members voted on zoning and overwhelming support for including RA-Rural zoned properties was presented in the final report which was delivered to the Board of Supervisors.

Many landowners in RA-Rural, AG, AE and FR properties have made considerable investments in infrastructure, greenhouse and supporting materials for the purpose of cultivating cannabis on a commercial scale. This work has included the preparation of business plans, obtaining permits from the State Water Board, hiring of consultants for biological resource assessments, attorneys or consultants for assistance with State permits, tax consultants and numerous other tasks relating to establishing licensed cultivation enterprises consistent with State law.

Since the passage of Ordinance 2416 in July of 2016, which is still currently in effect, the RA-Rural designation has been included along with AG, AE and FR zoned properties as allowable locations for certain size cannabis cultivation activities. When the Board passed the Emergency Ordinance on May 22, 2018, it is our current understanding that the existing ordinance 2416 will be passed as an Urgency Ordinance as it is currently written, which would include cultivation on RA-Rural zoned properties but not allow for temporary permits for these parcels.

Deleting RA-Rural from commercial cannabis cultivation will surely create a financial hardship on many property owners with this zone. The RA-Rural landowners are not residential by definition and the allowable uses on their properties have always been the same as what is allowed on AG parcels relating to cannabis cultivation. These property owners had no reason to suspect that they would be excluded from the legal permitted structure for commercial cannabis business.

The RA-Rural issue affects thousands of people with the financial impact of these decisions on these property owners could be significant as many have worked in good faith, like the property owners in other zones (AG, AE and FR), to comply with regulations that would allow participation in the State License system.

As shown in the table below, there are 1,514 parcels in the RA-Rural zoned areas which are greater than 5 acres in size. By combining the AE, AG, and FR zoned designations, there are a total of 9,455 parcels over 5 acres in size. The number of RA-Rural parcels is only 16% of the other three zones combined. Including the RA-Rural zoned properties in the EIR is a modest increase and should not add significantly to the cost of preparing the document. By not including the RA-Rural zones in the evaluation since that zone is currently permitted and allows cultivation like the AE, Ag and FR zones, may very well leave the EIR up for challenge.

RURAL ZONING DISTRICTS- Minus Public Owned Parcels

<i>Zoning District (GP Des)</i>	<i>2 to 2.99 ac.</i>	<i>3 to 4.99 ac.</i>	<i>5 to 9.99-ac.</i>	<i>10-ac and ></i>	<i>Total</i>
<i>AE</i>	2	5	12	121	140
<i>AG</i>	1,261	1,539	3,432	4,131	10,363
<i>FR</i>	118	286	653	1,106	2,163
<i>RA (RES)</i>	273	211	104	52	640
<i>RA (EST)</i>	902	905	533	189	2,529
<i>RA (other/rural)</i>	422	588	1,191	323	2,524
<i>RA Subtotal</i>	<i>1,597</i>	<i>1,704</i>	<i>1,828</i>	<i>564</i>	5,693

Total	2,978	3,534	5,925	5,922	18,359
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Source: Nevada County GIS Parcel Layer 1/8/18

For parcel sizes that are less than 5 acres, the RA-Rural zoned areas contain 1,010 lots compared to 3,211 in the AE, AG and FR zones. The total lot count in the AE, Ag and FR zones equals 12,666 while the RA-Rural zoned contains total 2,524 lots. Added together, the total number of lots in the RA-Rural, AE, Ag and FR zones would equal 15,190 with the RA-Rural zoned lots representing 16.62% of all lots in these zones.

Commercial Cannabis prior to 2018

The claim that commercial cannabis was not previously allowed in Nevada County is not accurate. Prior to the adoption of the new cannabis permitting system in January 2018, legal commercial cannabis businesses were operating throughout the State and in Nevada County under rules established in the Proposition 215. These legal commercial cannabis businesses generated about \$650 million of legal sales in the State in 2016. Many legal cannabis businesses have been operating in the RA-Rural, AG, AE and FR zones consistent with County rules pertaining to lot size, plant count and setbacks, and many have already obtained resale licenses from the State. These same “commercial” cannabis entities have filed documents with the Secretary of State establishing their businesses, obtained Federal Tax ID numbers, and paid income taxes on revenue from cannabis sales. It is clear that there is a serious interest by many growers in becoming legal and in compliance with the new State laws.

Cannabis cultivation has occurred in Nevada County for many years and previous ordinances have defined where cultivation should occur. Many properties have been included in these approved areas, which is why so many have made significant investments into their operations. To arbitrarily remove some lands which have been legally operating under existing laws, and yet allow other similar properties the rights to continue cultivating is viewed by many to be discriminatory. Many land owners in the RA-Rural Zone would be significantly damaged by these actions. Selectively taking away some owners rights to use their property while allowing others to retain rights, is not fair and speaks of favoritism, especially considering both types of properties are currently allowed the same commercial land uses in every other regard.

Conclusion

Of the 68,000 cultivation sites in California, only about 2.2% of these sites have applied for Temporary Cultivation permits to date. While some 4,000 temporary permits have been issued so far this year, about half of these permits have been issued for new facilities and not for existing operations. As of September 9, 2018, not one single Annual Permit has been issued by the State. Many cultivators are located in jurisdictions that do not have local ordinances permitting cultivation, while others are waiting in line for local approvals so they can submit applications to the State. The State annual permitting process, which has not yet been implemented, is cumbersome and expensive and many applicants may never obtain a State permit even with local agency approval. Those growers who want to participate in the legal market should be given every chance to do so, because the alternative is the ever expanding unregulated market, where taxpayers throughout the state are forced to spend valuable resources mitigating environmental damage and abating illegal cultivations.

Respectfully,

Gary M. Baker, Partner
Plan-aire Landscape Architects and Planning
(530) 268-3500
E-mail: gary@plan-aire.com

Hengl, Tasha

From: Gerald B. <jbushore@yahoo.com>
Sent: Saturday, August 25, 2018 10:08 AM
To: Planning
Subject: EIR - Public Input - Nevada County Water Resources diverted from Natural Environmental Uses

Over the last few years I have observed ever decreasing water flow, or total lack thereof, to the local tributaries of the South Fork of the Yuba River.

I manage a 90 acre Nevada County animal sanctuary (non profit 501c3), of which Shady Creek traverses across the property. There are three natural drainage courses into Shady Creek on the property, once flowing almost all year, or actually year round, abiet decreased in mid-late summer. Originally two of these waterways flowed year round, abiet decreased in mid summer too. These two now flow only in the winter heavy rains. The third traversing waterway was like Shady Creek flowing all year. All three of these waterways, at one time flowed into manmade old farm ponds for livestock, but they were not fully damed (a key factor). These ponds recently contained many large mouth bass and bluegill planted years ago. The bass appear to be gone, and only small bluegill survive, but barely. The ponds are now very shallow, and covered in weeds form the lack of depth and flow, and are easily eaten by a remaining single Blue Herron. The otters and wood ducks have disappeared and in the spring only one pair of Canadian Geese still return yearly to hatch their young. There are no more turtles, and I have not seen any bear or cougar tracks of those animals visiting the ponds in the last 3 years. Bears actually soaked in these ponds during the summer. There are also fewer deer and wild turkey observed, I have no proof, but still the rifle shots seem to regularly ring out, of which I presume is poaching.

I am still waiting for a game warden to respond to my request to the Department and Fish and Game. I am hoping to have them investigate my theory that these tributaries have now been fully blocked/damed for pot cultivation, which is rampant in the area over the past few years. The nearby subdivision, which also abuts Shady Creek, has been requesting conservation of their well and holding tanks by the residents, many of whom I know for a fact grow pot. Pot growing, in my opinion, is further depleting California's always increasing water needs, without apparent focused water regulation as to conservation, benefitting human or actual agricultural food needs.

Thank you.

jbushore

Hengl, Tasha

From: Graham Burke <gbsail@gmail.com>
Sent: Thursday, August 23, 2018 9:38 AM
To: Planning
Subject: comment on environmental impact report

Hello,

I'm writing to comment on odor considerations regarding cannabis cultivation activities in our county.

I feel that excessive concern is placed on the odor of marijuana cultivation and feel that the overblown concern is a result of prejudice against our industry.

There are many many accepted activities performed routinely on ag zoned land that produce far more offensive odors than cannabis. Cattle and pig farming for example routinely produce fecal odors during daily operations.

I have lived on res-ag parcels in this county bordering cattle fields and accepted the constant smell of manure (not to mention the flies) without complaint in recognition of the importance of allowing activities that contribute to our local economy.

Legal cannabis cultivation, being labor intensive, will create many jobs in our county (arguably more than ranching currently does) and should not be crippled or saddled with unreasonable regulations regarding the harmless odor of the plant.

Cannabis odors are non-intoxicating and completely harmless, unlike low levels of methane gas (cows give off) which have been proven harmful to humans.

Nothing at all against the cattle ranching community but I'm tired of seeing the endless concern about cannabis odors while cows are allowed to stink things up without being mentioned.

Thank you for considering my comment.

Graham Burke
District 2

Hengl, Tasha

From: John & Eileen <rodfamgv@gmail.com>
Sent: Wednesday, August 15, 2018 2:59 PM
To: Planning
Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

To whom it may concern,

Included are my comments on the "Notice of Preparation" - Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report dated August 10, 2018.

1) Table 1-1 - page 6 - the proposed regulations should allow outdoor personal use cultivation in residential areas. If one can plant a vegetable garden on their property then one should be allowed to grow a few cannabis plants for personal use. The cost and environmental impact of an indoor grow is a waste when natural sunshine is readily available! When I hear the concern about the smell I get a little ticked off - barking dogs, neighbors smoking and other nuisances are part of living in a residential area. The smell from a few plants a couple of months a year is no worse a nuisance than other residential nuisances.

2) Potential Environmental Effects - page 12 - an Environmental Justice effect should also be studied in the EIR. The impact on residential areas should be studied. The additional cost to residential areas to create indoor grows is an economic, criminal and environmental burden. The burden of an indoor grow or having to purchase from a commercial vendor is unfair to residential areas. All residents should be given the right to grow their own!! Don't make it a crime and unjustly punish residential areas. Also, global warming will be adversely effected with the use of indoor grows that require additional energy consumption.

3) Alternatives - page 12 - should include an alternative to study the effects of allowing outdoor personal use grows in residential areas.

4) Required permits - page 8 - should include a reference to whether or not permits for personal use will require. I would suggest not but it should be clearly stated.

Thanks for the opportunity to comment. If you have any questions please feel free to contact me.

John Rodrigues
11179 Alpine Lane
Grass Valley, CA 95945
(530) 273-5105

Hengl, Tasha

From: Sean Powers <Sean.Powers@co.nevada.ca.us>
Sent: Monday, August 13, 2018 9:50 AM
To: Brian Foss
Subject: FW: Comments on CEQA scoping for the Draft Cannabis Ordinance

From: Ed Scofield
Sent: Monday, August 13, 2018 9:50 AM
To: Sean Powers
Subject: FW: Comments on CEQA scoping for the Draft Cannabis Ordinance

From: Josh Emery [<mailto:joshua.f.emery@gmail.com>]
Sent: Saturday, August 11, 2018 10:59 AM
To: Ed Scofield <Ed.Scofield@co.nevada.ca.us>
Subject: Comments on CEQA scoping for the Draft Cannabis Ordinance

Dear Supervisor Scofield,

The Draft Ordinance currently does not address the use of groundwater (wells) for commercial cannabis activities. I would like the EIS to examine the effects of commercial cannabis activity on the groundwater levels of neighboring parcels, to determine when commercial activity may affect a neighbor's ability to draw on water from his or her well.

Hengl, Tasha

From: Sherman <shermanjktv@gmail.com>
Sent: Thursday, August 9, 2018 10:46 AM
To: Planning
Subject: Environmental concerns of commercial cannabis

Hello Brian Foss,

A neighbor is asking all of the Lake of the Pines Rancho residents to attend the upcoming meeting at Bear River High School. Many of us did attend BOS meetings last year and also wrote letters and sent emails to the BOS to express our concerns that commercial growing of cannabis in Lake of the Pines Ranchos on the few lots which are slightly more than 5 acres might be allowed. Supervisor Scofield assured us that since the lots in the Ranchos are Residential-Ag, there would be no commercial growing allowed even if the lot is more than 5 acres. Is that still true, or, do we need to organize, attend the meeting and express our opposition to commercial growing in the Ranchos again?

We have a neighborhood communication forum and I'd like to get correct information for all the residents of the Ranchos.

Thank you,
Kathy Sherman

Hengl, Tasha

From: Larry Haynes <lhgreystone@yahoo.com>
Sent: Sunday, August 26, 2018 8:15 AM
To: Planning
Subject: Pot farmers

Sent from my iPad Way are there still pot growers in residential areas, Alta Sierra? I do not support any grows in residential neighborhoods, or near schools. Larry Haynes

Hengl, Tasha

From: Lisa Robinson <lisamarierob@yahoo.com>
Sent: Thursday, August 23, 2018 4:51 PM
To: Planning
Subject: Cannabis cultivation on small acre parcels

The following are my concerns with allowing 5 acre marijuana parcels in Nevada County vis a vis their environmental impact.

- 1: My son lives on a 5 acre parcel off of Lone Tree Rd and is having an increasingly difficult time getting homeowner/fire insurance because of the high risk California poses. Many insurance companies are pulling out of California. What happens if one of these marijuana farms that are cultivating fuel intensive, oil laden marijuana plants catches fire and causes a wildfire and property loss or loss of life? Will they have the proper insurance? Will an insurance company even provide coverage for a farm that is growing a still federally illegal substance?
- 2: What does smoke from burning marijuana plants do to the air? It will already be a horrific traffic jam getting out of LOP and surrounding areas in case of a wildfire. We don't need extra pollution causing respiratory problems.
- 3: I believe that Marijuana plants require alot of water and nitrogen fertilizer. What does the runoff do to the algae content in Lake Combie and Lake of The Pines. We already have an algae problem in LOP and the homeowners are spending money eradicating the problem with more expense to come.
- 4: Will these farms attract more rodents that will be required to be killed with anti-coagulant pesticide pellets? If so, this will have an effect on other wildlife and pets.
- 5: Businesses that have regulations need oversight. How can a government that is already burdened with oversight in so many areas manage this. What impact will it have on our taxes?
- 6: I have done a ride along with my firefighter son in Sacramento. I asked the law enforcement officers that showed up on a call what they thought of the legalization of marijuana. They said that the fees, taxes, costs etc. are high enough that it will still drive an underground market. This means crime. How do these farmers keep people from coming onto their property at night to harvest their plants? Do they keep vicious dogs, and/or weapons?
- 7: Lastly, what sort of visual blight and/or noise pollution does this cause in a residential neighborhood?

Thank you for careful consideration of these concerns.

Lisa Robinson

11292 Timber Ct

Auburn Ca 95602

Hengl, Tasha

From: mark johnson <bigwoody555@gmail.com>
Sent: Monday, September 10, 2018 1:14 PM
To: Planning
Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

When asked how the CEQA report would tabulate how many households would legally grow cannabis indoors at the Bear River High School meeting the reply was that an assumption would be made. When asked how many gallons of water these legal indoor grows would consume the reply was that an assumption would be made for that issue. When asked how much electricity would need to be generated and how much green house gases would be released into the atmosphere to power the lights, fans, filters, pumps, etc. needed for everyone that wished to legally grow indoors the reply was that assumptions would have to be made for those issues also.

HOW CAN A LAW BE LEGALLY CRAFTED ON ASSUMPTIONS? A LAW CANNOT BE LEGALLY CRAFTED BASED ON ASSUMPTIONS.

With NID polluting our waterways with glyphosate, copper based algeacides, Nautique and other pollutants, how will contamination be gauged, when our water sources are already tainted with cancer causing elements and pollutants?

HOW WILL OUR WATERWAYS BE MONITORED FOR POLLUTION, HERBICIDES AND CONTAMINANTS WHEN OUR WATERWAYS ALREADY CONTAIN THESE SUBSTANCES AT CERTAIN NID DISTRIBUTION SITES?

How will Air Quality be measured? Has any evidence been submitted to the BOS that designates how a scent can be named a nuisance? Is there any legal proof showing that the scent of cannabis ruins one's ability to enjoy his own lifestyle? Is there any legal and valid proof that the scent of cannabis lowers one's property values?

WILL THIS LAW BE ENACTED ON THE GROUNDS OF UNPROVEN ASSERTIONS AND PERSONAL OPINION? A LAW CANNOT BE CRAFTED ON CONJECTURE, SUBJECTIVE OPINIONS AND ASSUMPTIONS.

Thank you for your time.

Mark Johnson District 4

Hengl, Tasha

From: mark schaefer <rivermanschaefer@gmail.com>
Sent: Monday, September 10, 2018 4:07 PM
To: Brian Foss
Subject: Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

Date: Sep 10, 2018

To: Brian Foss, Director of Planning, Nevada County

From: Mark Schaefer, Advisory Board Member, Nevada County Cannabis Alliance

Re: **Commercial Cannabis Cultivation Ordinance NOP Scoping Comments**

In addition to comments submitted separately by the Nevada County Cannabis Alliance, I would like to submit additional comments regarding the evaluation of the impacts of Air Quality related to the odor of the cannabis plant:

Odor may be the number one complaint of opponents of commercial cannabis in the county, even above concerns about youth access.

Tackling the smell issue will not be simple but it is important that we be honest and realistic about its significance. Viewing cannabis odor as a simple "good smell/bad/smell" dilemma is not realistic.

The impact of the flowering cannabis plant on someone's sense of smell is subject to several variables:

1. What stage of growth is the plant in? Cannabis is generally grown outdoors for 16-18 weeks. For the first 8-10 weeks of the plant's life, there is no odor. Cannabis only gives off an odor at the end stage of a 7-10 week flowering process. As the flowering progresses, the odor gets progressively stronger. At what stage the odor is strong enough to travel by air to neighboring properties will vary, but generally, there will only be 3-5 weeks of odor.
2. What time of day is it? Cannabis flowers smell more at dawn and dusk than any other time of the day. How far the smell will travel depends on the time of day
3. What way is the wind blowing? The smell of cannabis travels according to the direction of the wind. The days or even hours that may impact a neighbor will vary.
4. How large is the garden? The more plants, the higher concentration or odor. This variable can be addressed by relegating large gardens to larger parcels, further from neighbors.

5. What strains are being grown? Different strains of cannabis have different levels of odor-producing substances called terpenes. Cannabis plants have the same terpenes found in a variety of other plants such as citrus, hops, pine, and scented flowers. *Linalool*, often found in cannabis, is also what gives lavender its smell. Many cleaning products have lavender in them. *Pinene* can be found in all the pine trees that sprinkle Nevada County. *Limonene*, like it sounds, is in citrus fruits on the side of someone's cocktail glass or in a fruit bowl in a kitchen. The smells of the terpenes in cannabis are around us every day, yet we may identify the smell differently when it is associated with cannabis. Terpenes have also been found to be an important part of the medicinal benefits of the plant just as they are in other herbal and aroma therapies.
6. Who is doing the smelling? Research shows that there is an exceptionally short path (just a few synapses) from the olfactory receptors in the nose to the emotion and memory centers of the brain. In experiments, the same smell was labeled with a positive qualifier and a negative qualifier. Consistently, people liked it when the label was positive and disliked it when the label was negative. ([Ah Sweet Skunk! Why We Like or Dislike What We Smell, Cerebrum, 2001](#)). If we have an emotional reason to dislike a smell the odds are higher we will find that smell offensive. So, another variable influencing how a person smells the plant is how they feel about the idea of the plant. Emotional bias can inform us.

Thank you for your consideration of these comments.

Mark Schaefer

Hengl, Tasha

From: Maureen Brooks <lmadison2@icloud.com>
Sent: Thursday, August 9, 2018 4:55 AM
To: Planning
Subject: Nevada County Marijuana Ordinances

I live outside the Nevada City limits on Red Dog Road and Crystal Wells. Our home is at the very eastern edge of the Deer Creek Park residential development. Further up Red Dog Road to Banner Quaker Hill, are several multi acre properties, some with homes and some which are undeveloped lots which are for sale. My concern is with the strong odor, which for the members of our household is unpleasant to the point of being nauseating at times. We had the distressing experience two years ago of a close neighbor growing just a few plants. As the plants matured and became resinous, for the stretch of a month that Fall we could not open up our windows or enjoy sitting outside on our deck because of the strong smell. I would advocate that growing and/or processing marijuana should not be done in or within close proximity of residential areas.

Maureen Brooks

NATIVE AMERICAN HERITAGE COMMISSION

Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710



August 14, 2018

Brian Foss
Nevada County
950 Maidu Avenue
Nevada City, CA 95959



Also sent via e-mail: planning@co.nevada.ca.us

RE: SCH# 2018082023, Nevada County Cannabis Ordinance Project; Nevada County, California

Dear Mr. Foss:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for Draft Environmental Impact Report for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit. 14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd. (a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (Pub. Resources Code § 21084.2). Please reference California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," <http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf>. Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends **lead agencies consult with all California Native American tribes** that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
 - a. A brief description of the project.
 - b. The lead agency contact information.
 - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
 - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).
2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subs. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
 - a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).
3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
 - a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).
4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
 - a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project's impacts on tribal cultural resources.
 - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).
5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).
6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
 - a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
 - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
 - a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
 - a. Avoidance and preservation of the resources in place, including, but not limited to:
 - i. Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i. Protecting the cultural character and integrity of the resource.
 - ii. Protecting the traditional use of the resource.
 - iii. Protecting the confidentiality of the resource.
 - c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
 - e. Please note that a federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
 - f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
 - a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
 - b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires **local governments** to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>

NAHC Recommendations for Cultural Resources Assessments

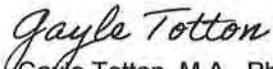
To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have been already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

- b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.
- 3. Contact the NAHC for:
 - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
- 4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
 - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,



Gayle Totton, M.A., Ph.D.
Associate Governmental Program Analyst
(916) 373-3714

cc: State Clearinghouse

Date: Sep 10, 2018

To: Brian Foss, Director of Planning, Nevada County

CC: Sean Powers, Community Development Agency Director, Nevada County
Mali Dyke, Nevada County Executive Office
Brad Stoneham and Alex Jewell, Kimley - Horn
Nevada County Board of Supervisors Hall, Weston, Anderson, Miller, Scofield
Sue Hoek, January 2019 - Nevada County Board of Supervisor



From: Diana Gamzon, Executive Director, Nevada County Cannabis Alliance

Re: **Commercial Cannabis Cultivation Ordinance NOP Scoping Comments**

The Nevada County Cannabis Alliance is a local membership-based advocacy association representing over 500 cannabis farmers, patients and business owners. Our mission is to advocate, educate and connect. We advocate for reasonable local policy while empowering community members through education; and connecting stakeholders with opportunities to participate and collaborate in a local thriving cannabis community.

By offering public comment, the Alliance intends to provide the Nevada County Planning Department and Kimley - Horn with specific industry expertise that is essential through the EIR process. We are committed to protecting our local environment and to preserving the unique values of small sustainable cannabis farmers who have been part of our community since the 1960's. These public comments reflect the balance necessary to assure that cannabis farmers can reasonably transition into the newly regulated market while preserving the environmental integrity of our watershed and the local environment generally.

This document will provide examples of specific state and local regulations and requirements that will mitigate the impacts of cannabis farming in Nevada County to a "less than significant" level.

It should be noted that the Nevada County Cannabis Alliance requested for the following license types to be studied within the environmental analysis: distribution, manufacturing, testing labs, retail and micro licenses. The Alliance also advocated for the Residential Agriculture zoning to be studied for cultivation impacts. We feel it was imperative that the analysis be comprehensive of all future potential opportunities while prioritizing cultivation. We advocate for both RA Zoning and the other license types to be studied as project alternatives.

Specific Comments on Areas of Potential Environmental Impact.

1. Potential impacts on aesthetics will be mitigated due to the following measures:

- a. Grow light systems associated with cultivation shall be shielded to confine light and glare to the interior of the structure at all times, shall not be visible during the night time hours, and shall conform to all applicable building and electrical codes (*Nevada County draft Cultivation Ordinance, Sec 1.4 C, 5*).
- b. The Cultivation site shall also be developed so it is not visible from a public right of way. (*Nevada County Draft County Ordinance Sec 1.4 G*)
- c. Cultivation of Cannabis is *prohibited* on any Parcel or Premises located within the following areas: In any location where the Cannabis would be visible from the public right-of-way or publicly traveled private roads at any stage of growth (*Nevada County Draft Cultivation Ordinance, Section 1.4.B.2*).
- d. The current Nevada County draft regulations state that for commercial cannabis to be cultivated there must be a legally established residence (*Nevada County Draft Cultivation Ordinance 1.3, B*).
 - i. This requirement may lead to the building of cheap and low-end residences where there was once open land for farming which may negatively impact aesthetics.
- e. The County shall establish standards for the protection of large scale views and viewsheds and shall incorporate such standards in the Comprehensive Site Development Standards. The standards shall provide an inventory of sensitive views and viewsheds within Nevada County, and specify protective measures and impact controls applicable through the project site review process. (*Nevada County General Code - Aesthetics - Chapter 18- Policy 18.3*)
- f. New Commercial, Industrial and Multiple Family development shall utilize fixtures and light sources that minimize night time light pollution. (*Nevada County General Code - Aesthetics - Chapter 18 - Policy 18.11*)
- g. All licensees shall comply with the following environmental protection measures: Mixed-light license types of all tiers and sizes shall ensure that lights used for cultivation are shielded from sunset to sunrise to avoid nighttime glare. (*California Department of Food and Ag, CDFA Proposed Cultivation Regulations Sec 8304, g*)
- h. Every state cultivation permit application must submit a cultivation plan with a complete lighting diagram. (*CDFA Application Checklist for Commercial Cultivation*)

2. Potential impacts of **Agriculture & Forestry Resources**:

- a. Cannabis Cultivation is prohibited on any Parcel or Premises within the unincorporated territory of Nevada County except on Parcels or Premises with a legally established Residence. (*Nevada County Draft Cultivation Ordinance 1.3, B*)
 - i. The requirement to have a legally established residence may lead to a conversion of agricultural land, including prime farmland, to the establishment of home sites. There is the potential that the project will have an impact on the conversion of agricultural land.
 - b. Per the draft ordinance, commercial cannabis cultivation sites allowable in Nevada County will range in size from 10,000 square feet to 2,500 square feet on minimum 5 acre parcels. If 500 cultivation permits were allowed, at a MAXIMUM this would translate to 114 acres total (*Nevada County Draft Cultivation Ordinance 1.5, A, 2*)
 - i. By comparison, this total estimated acreage (114 acres) translates to 1.4% of total farmlands, .08% of total grazing land and 3.4% of total cropland within Nevada County. (*data from: 2017 Land Use Conversion Data, CA Dept of Conservation; USDA National Agricultural Statistics 2012 Census of Agriculture; 2016 Crop and Livestock Report - Nevada County*)
 - ii. Based on these calculations, the total impact of cannabis farming on current agriculture resources appears to be less than significant.
3. Potential impacts on **Air Quality** will be mitigated due to the following measures:
- a. All structures used for indoor cultivation of Cannabis shall contain effective ventilation, air filtration and odor-reducing or odor-eliminating filters to prevent odor, mold and mildew in any area used for Cultivation or which is used as, designed or intended for human occupancy, or on adjacent Premises (*Nevada County Draft Cultivation Ordinance Sec 1.4, C, 4*).
 - b. The Accessory Structures [for indoor growing] shall be equipped with a permanently installed and permitted odor control filtration and ventilation system adequate to prevent any odor, humidity, or mold problem within the structure, on the Parcel, or on adjacent Parcels. (*Nevada County Draft Cultivation Ordinance Sec 1.4, D,4*).
 - c. The following setbacks apply to all Cannabis Cultivation sites regardless of purpose or Cultivation method: 1) For all Parcels or Premises: 100 linear feet measured from the edge of the Canopy Area to the adjacent property lines. (*Nevada County Draft Cultivation Ordinance Sec 1.4, B, 1*).
 - i. The establishment of minimum parcel size and setbacks from neighboring parcels within the Nevada County Draft Ordinance were adopted with the consideration to mitigate for odors from sensitive uses.

- ii. Setbacks for cannabis cultivation have been set far beyond traditional local agriculture or building standards.

- d. The Accessory Structure shall not be built or placed within any setback as required by the Nevada County Land Use and Development Code or approved development permit or entitlement. (*Nevada County Draft Cultivation Ordinance, Sec 1.4, D, 2*)
 - i. See 3 (c) i & ii above

- e. Generator requirements must comply with (*CDFA Proposed Cultivation Regulations Sec 8306. Generator Requirements*):
 - i. (b) Licensees using generators rated at fifty (50) horsepower and greater shall demonstrate compliance with Airborne Toxic Control Measures pursuant to title 17, div 3, chap 1, sub-chap 7.5, sec 93115 - 93115.5 of the California Code of Regulations. Compliance shall be demonstrated by providing a copy of one of the following to the department upon request:
 - 1. A Portable Equipment Registration Certificate provided by the California Air Resources Board;
 - 2. A Permit to Operate obtained from the Local Air District with jurisdiction over the licensed premises.
 - ii. (c) Licensees using generators rated below fifty (50) horsepower shall comply with the following by 2023:
 - 1. (1) Designate the generator as emergency or low-use as defined in title 17, division 3, chapter 1, subchapter 7.5, sections 93116.2(a)(12) and 93116.2(a)(22) of the California Code of Regulations;
 - 2. (2) Either (A) or (B):
 - a. (A) Meet Tier 3 with level 3 diesel particulate filter requirements pursuant to title 13, division 3, chapter 9, article 4, section 2423 of the California Code of Regulations;
 - b. (B) Meet Tier 4 engine requirements pursuant to title 13, division 3, chapter 14, section 2702 of the California Code of Regulations.

- f. **Industry Insight:**
 - i. Commercial cannabis farms have minimal road traffic for deliveries. Many commercial farmers will only have **one** large soil delivery when they begin their operation. This **one** soil delivery will last for several years/ seasons without the need for future deliveries as many farmers work to amend their existing soil.

4. Potential impacts on **Biological Resources** will be mitigated due to the following:
- a. All licensees shall comply with all of the following environmental protection measures: (*CDFA Proposed Cultivation Regulations Sec 8304.General Environmental Protection Measures*):
 - i. Compliance with section 13149 of the Water Code as implemented by the *State Water Resources Control Board, Regional Water Quality Control Boards, or California Department of Fish and Wildlife*;
 - ii. Compliance with any conditions requested by the *California Department of Fish and Wildlife or the State Water Resources Control Board* under section 26060.1(b)(1) of the Business and Professions Code;

 - b. All cannabis farmers must comply with the terms of any applicable Streambed Alteration Permit obtained from the California Department of Fish & Wildlife, (CDFW, [Fish and Game Code section 1602](#)).
 - i. CDFW Lake and Streambed Alteration (LSA) Agreement (or written verification that one is not needed) includes information on the following:
 1. Habitat Loss & Fragmentation
 2. Water Diversion
 3. Dams and Stream Crossings
 4. Pesticides and Fertilizers
 5. Light Pollution
 6. Noise Pollution
 - ii. Required under California Department of Fish and Wildlife (CDFW) each proposed cultivation site to evaluate the possible presence of sensitive species.
 1. Riparian Habitat
 2. Wetlands
 3. Migratory fish etc

 - c. All local cultivators must comply with section 13149 of the Water Code as implemented by the *State Water Resources Control Board*, which includes:
 - i. Adherence with specific slope restrictions, disturbed land sizes and distances from waterways and wetlands.
 - ii. Site specific biological assessment (BSA) prepared by a qualified wildlife biologist,
 - iii. Copy of Army Corp Section 404 Permit, as needed
 - iv. 401 Certification by Central Valley Water Board, as needed
 - v. Site assessments will ensure there will **not** be any of the following:
 1. Diversion or obstruction of the natural flow that would substantially change any river, stream, or lake.
 2. Utilize material from bed, channel or bank of any river, stream or lake.

3. Deposit or dispose of debris, waste or other material containing crumbled, flaked or ground pavement where it may pass any river, stream or lake.
 - vi. Erosion Control Plan, as needed
 - d. Nevada County General Plan has several local objectives and policies to protect biological resources (Chapter 6, Chapter 13)
 - e. GRADING: See Geology and Soils section
5. Potential impacts on **Cultural and Tribal Cultural Resources** will be mitigated due to the following:
- a. In conformance with the the *State Water Board Regulations*, each cultivator must apply to California Historical Information Service (CHRIS) to determine whether the project area has been previously surveyed and whether cultural resources were identified, along with the results of the sacred lands search from the Native American Heritage Commission (NAHC)
 - b. In conformance with the the *State Water Board Regulations*, it is required that all construction contractors that will perform ground disturbing activities implement inadvertently discovery measures for cultural resources.
 - c. County Land Use Code states that for all applicable projects, the County shall direct the project applicant to initiate a North Central Information Center (NCIC) records search to provide the most current information about the sensitivity of the property to contain cultural resources and to assess the need for a cultural resource study. If the NCIC does not recommend a cultural resource study and if there are no recorded or known cultural properties or traditional cultural areas, the project applicant shall submit NCIC correspondence documenting such to the County, with the land use application. (*Nevada County Land Use Code L-II 4.3.6*)
6. Potential impacts on **Geology and Soils** will be mitigated due to:
- a. Erosion Control through local grading regulations: This Article [13] sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes standards of required performance in preventing or minimizing water quality impacts from stormwater runoff; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction, drainage, and erosion and sediment controls at construction sites (*Nevada County Land Use and Development Code, Article 13*)
 - b. Per the Water Board Cannabis General Order - all cultivators must obey the specific criteria used to evaluate the threat to water quality based on:

- i. Slope of disturbed area: Increased slopes may be associated with decreased soil stability, especially when associated with vegetation removal. Storm water and excess irrigation water are more likely to runoff and discharge off-site from sloped surfaces.
- ii. Proximity to a surface water body: Riparian setbacks from surface water bodies generally reduce impacts to water quality. Disturbed areas within the riparian setbacks are more likely to discharge waste constituents to surface water, therefore, any sites that cannot meet the riparian setback requirements are considered to be high risk sites.
- iii. For each site, risk determination is done based on the characteristic that poses the greatest threat to water quality.
(*Water Board Cannabis Cultivation Policy 10.17.17*)

c. **Local Industry Insight -**

- i. In partnership with South Yuba River Citizens League, the Alliance has been providing education and promoting best management practices on soil management to the community.
- ii. Importing soils is becoming cost prohibitive for farmers and it is common for farmers to amend the native soil naturally through organic composting and effective use of cover crops. By utilizing soil best management practices cultivation operations are sequestering carbon. This is helping to rebuild farmlands within the community. CDFA has healthy soil grant programs to further encourage this concept.
- iii. Many full season outdoor farmers will work their soil in the spring then plant and leave it untouched until the Fall. This method has less soil tillage and disturbance than intensive vegetable farmers. It is a common practice amongst Local cannabis farmers are encouraged to utilize cover crops which help to build healthy soil, hold moisture, help with runoff, fix nitrogen etc.

7. Potential impacts on **Hazards and Hazardous Materials** will be mitigated due to:

- a. The use of Hazardous Materials shall be prohibited in the Cultivation of Cannabis except for limited quantities of Hazardous Materials that are below State of California threshold levels of 55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of compressed gas. Any Hazardous Materials stored shall maintain a minimum setback distance of 100 feet from any private drinking water well, spring, water canal, creek or other surface water body, and 200 feet from any public water supply well. The production of any Hazardous Waste as part of the Cultivation process shall be prohibited (*Nevada County Draft Cultivation Ordinance Sec 1.4, C9*).

- b. The Permitting Authority may deny an application for an original or renewal license, or revoke an original or renewal license, for any of the following reasons:
 - 10 - Failure to contain all irrigation runoff, fertilizer, pesticides, and contaminants on-site. (*Nevada County Draft Cultivation Ordinance, 1.8, A, 10*)

- c. All cultivation of cannabis must be done in accordance with the Department of Pesticide Regulations (DPR). The DPR has strict rules on the pesticides that can and cannot be used on cannabis. The pesticides that are on the “can’t use” list will not pass cannabis lab testing standards (*Department of Pesticide Regulations, California Cannabis Cultivation*).

- d. Any use of pesticide products shall be consistent with State law and regulations enforced by the California Department of Pesticide Regulation and the Agricultural Commissioner’s Office.
 - i. (a) Licensees shall comply with all pesticide laws and regulations enforced by the Department of Pesticide Regulation.
 - ii. (b) For all pesticides that are exempt from registration requirements, licensees shall comply with all pesticide laws and regulations enforced by the Department of Pesticide regulation and with the following pesticide application and storage protocols:
 - 1. (1) Comply with all pesticide label directions; (
 - 2. (2) Store chemicals in a secure building or shed to prevent access by wildlife;
 - 3. (3) Contain any chemical leaks and immediately clean up any spills;
 - 4. (4) Apply the minimum amount of product necessary to control the target pest;
 - 5. (5) Prevent offsite drift;
 - 6. (6) Do not apply pesticides when pollinators are present;
 - 7. (7) Do not allow drift to flowering plants attractive to pollinators;
 - 8. (8) Do not spray directly to surface water or allow pesticide product to drift to surface water. Spray only when wind is blowing away from surface water bodies;
 - 9. (9) Do not apply pesticides when they may reach surface water or groundwater; and
 - 10. (10) Only use properly labeled pesticides. If no label is available consult the Department of Pesticide Regulation.

(*CDFR Proposed Cultivation Regulations Sec 8307, Pesticide Use Requirements*)

- e. State Cannabis License application requires a cultivation plan with:
 - i. Specific information on pesticide storage

- ii. A pest management plan which shall include, but not be limited to, the following: (A) Product name and active ingredient(s) of all pesticides to be applied to cannabis during any stage of plant growth; and (B) Integrated pest management protocols, including chemical, biological, and cultural methods the applicant anticipates using to control or prevent the introduction of pests on the cultivation site.
(*CDFA Proposed Cultivation Regulations Sec 8106 A, 1, c*).

f. **Industry Insight -**

- i. Regulated Cannabis farmers will not be able to use harsh chemicals and pesticides due to the strict requirement to pass laboratory analysis before cannabis can enter the market.

8. Potential impacts on **Hydrology and Water Quality** will be mitigated due to:

- a. All Premises used for the Cultivation of Cannabis shall have a legal and permitted water source on the Parcel and shall not engage unlawful or unpermitted drawing of surface water or permit illegal discharges of water from the Parcel (*Nevada County Draft Cultivation Ordinance Sec 1.4, C10*).
- b. All Premises used for the Cultivation of Cannabis shall have a legal and permitted sewage disposal on the Parcel and shall not engage in unlawful or unpermitted drawing of surface water or permit illegal discharges of water from the Parcel (*Nevada County Draft Cultivation Ordinance Sec 1.4, C11*).
- c. Any Hazardous Materials stored shall maintain a minimum setback distance of 100 feet from any private drinking water well, spring, water canal, creek or other surface water body, and 200 feet from any public water supply well. (*Nevada County Draft Cultivation Ordinance Sec 1.4 C 9*).
- d. Local Land Use Code states that the enforcement agency may designate areas where groundwater quality problems are known to exist and where a well will penetrate more than one aquifer. The enforcement agency may require special well seal(s) in these designated areas to prevent mixing of water from several aquifers (*Nevada County Land Use Code Sec. L-X 2.17 Special Groundwater Protection*).
- e. Regulated Cannabis Cultivation requires:
 - i. Compliance with *State Water Resources Control Board, Division of Water Rights* which includes obtaining and complying with applicable permits, licenses, registrations and annual filings. Compliance with the the annual filing of a statement of diversion and use of surface water from a stream,

river, underground stream, or other watercourse required by Water Code Section 5101.

- ii. Full compliance with Central Coast Water Quality Control Board.
- iii. For cultivation areas for which no enrollment pursuant to Central Coast Water Quality Control is required, the site shall comply with the standard conditions set forth in that Order, as well as the applicable “Best Management Practices for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects” as presented in Appendix B of the Water Board Order.

- f. All cannabis farmers must comply with the Water Board Policies. The purpose of the Water Board Cannabis Cultivation Policy is to ensure that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, and springs. (*Water Board Policy Oct 17, 2017*)

9. Potential impacts on Land Use and Planning will be mitigated due to:

- a. Local commercial cannabis cultivation has been approved by the Board of Supervisors, on land designated for agricultural use and forestry. Given that cannabis is a farmed crop, it has been placed in appropriate zoning according to the Nevada County general plan.
 - i. According to the Nevada County general plan:
 - 1. Chapter 16, Agriculture - Objective 16.2 Maintain and encourage agriculture on lands zoned for agricultural use, especially those which border Community Regions, while minimizing conflicts with adjacent non agricultural lands.
 - 2. Chapter 16, Agriculture, Goal 16.1 Encourage the use of significant agricultural lands and operations in Rural Regions.
 - 3. Objective 16.1 Identify and encourage the use of significant agricultural lands based on soil type and suitability for various forms of agriculture.
 - 4. Objective 16.3 Minimize and reduce pressures to convert lands zoned for agricultural use to more intensive uses.
 - 5. Objective 16.4 Identify the appropriate parcel sizes on lands zoned for agricultural use that provide for a range of agricultural operations that may be carried on in those zones.

10. Potential impacts on Noise will be mitigated due to:

- a. Noise levels generated by Cultivation shall not exceed the standards set forth in Table L-II 4.1.7 (Exterior Noise Limits) of the Nevada County Zoning Ordinance applicable to the Land Use Category and Zoning District for the Premises on which the Cultivation occurs (*Nevada County Draft Ordinance, Sec 1.4, C, 7*).

11. Potential impacts on Population and Housing will be mitigated due to:

- a. Under the current draft ordinance for cannabis cultivation, only properties that are 5 acres or more within Agricultural or Forestry zoned land will allow commercial cultivation. Because of the rural nature of these activities they will have an insignificant impact on population and housing in the county. (*Nevada County Draft Ordinance Sec 1.5*)
- b. For several decades, Nevada County has continued to transition from a predominantly resource based (timber, mining, farming and ranching) rural county to a much more varied and diverse population and diverse economic base which is reflected by the increase in commercial, industrial, rural residential and recreational uses. However, resource based land uses continue to be significant in terms of the extent of such uses and the continuity of their function in the County's economy. While cattle ranching remains the main producer of Nevada County's agriculture lands, vineyards and wineries are steadily increasing on the landscape. In addition, the promotion of local agriculture has increased opportunities for direct agricultural marketing, certified farmers markets and agritourism attractions. Agriculture in Nevada County is evolving in response to emerging markets that incorporate a wide range of innovative activities including on-farm direct marketing, entertainment, farm accommodations, outdoor recreation, and educational programming. Therefore, the new land use pattern for agricultural lands is more intensive farming on smaller parcels which are more accessible to the public. (*Nevada County General Plan, Chapter 1: Land Use Element, Existing Land Uses and Agriculture*)
- c. These agricultural uses contribute to maintenance of the rural environment of the County, and by maintaining the rural character, enhance tourism in the County. The role of tourism in the County has been an important part of development. Many of the new jobs in service and retail employment are related to visitor serving uses, including lodging and resorts, and it is expected that the importance of such uses will continue to increase. (*Nevada County General Plan, Chapter 1: Land Use Element, Existing Land Uses and Agriculture*)

12. Potential impacts on Public Services will be mitigated due to:

- a. The Nevada County draft ordinance requires that all commercial cannabis operators obtain an annual permit which, among other things, shows the exact location of the proposed activity. By having records of where lawful activities are taking place, the public service needs of the county Sheriff will be reduced. (*Nevada County Draft Ordinance Section 1.6*).
- b. The processing of cannabis in the county has historically be done by seasonal workers who have at times added additional burdens to local public services.

State law now requires processors to be legal employees which will reduce these burdens.

- c. The permitting of commercial cannabis activities will require that such activities meet the safety standards set out in the building and land use codes. Each site will also be subject to inspection and approval by local fire district personnel. These requirements will greatly reduce fire risk and thus reduce the burden placed on fire fighters.

13. Potential impacts on Recreation will be mitigated due to:

- a. Cultivation of Cannabis is prohibited on any Parcel or Premises located within the following areas:
 - i. Upon any Premises located within 1,000 feet of any Sensitive Site. This setback is measured from the edges of the designated Canopy Area to the property line of the Sensitive Site.
 - ii. In any location where the Cannabis would be visible from the public right-of-way or publicly traveled private roads at any stage of growth. (Nevada County Draft Ordinance Section 1.4
 - iii. "Sensitive Site" means a School, Church, Park, Child or Day Care Center, or Youth-Oriented Facility. (Nevada County Draft Ordinance Section 1.2 JJ).
- b. The County shall encourage any person proposing to construct or operate a new or relocated School, Sensitive Site, Church, Park, Day Care, or Child Care Center, or Youth-Oriented Facility to consider whether the proposed location of such use is within 1,000 feet of a Premises upon which Cannabis is known to be Cultivated. Upon request, the Sheriff's Office shall inform any person proposing to construct or operate a new or relocated School, Church, Park, Day Care, Child Care Center, or Youth-Oriented Facility regarding whether there is a Premises upon which Cannabis is known to be cultivated within 1,000 feet of the proposed location of such use, and, if so, shall also inform the person, owning, leasing, occupying, or having charge or possession of the Premises upon which Cannabis is known to be cultivated that such a use is being proposed within 1000' feet of the Premises (Nevada County Draft Ordinance, Sec 1.7)

14. Potential impacts on Transportation and Traffic will be mitigated due to:

- a. Cannabis Cultivation shall not adversely affect the health, safety, or general welfare of persons at the Cultivation site or at any nearby residence by creating dust, glare, heat, noise, noxious gasses, odor, smoke, **TRAFFIC**, light, or vibration, by the use or storage of hazardous materials, processes, products or wastes, or by any other way. (Nevada County Draft Cultivation Ordinance Section 1.4 C)

- b. Concerns about excess load limits do to transportation to or from cultivation sites will be mitigated by existing County code load limits (see Sec. G-IV 3.B.1 Load Limit of Roads and Bridges Established)
- c. To the extent commercial cultivation will be considered home businesses, current regulations state the no more than 6 business-related vehicle trips (round trips) per day are permitted. Business related **TRAFFIC** trips shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. (*Nevada County Land Use Code Sec. L-II 3.11 Home Businesses*)
- d. The requirement that all cultivation operations identify a water right sufficient to irrigate the cultivated area will reduce the potential to rely on water delivery and thus reducing PM10 and vehicle emissions from truck traffic to remote cultivation sites.
- e. **Industry Insight -**
 - i. Due to self transportation of products, the farmer would most likely be transporting their product from their farm to either a processing center or distributor. The expected number of traffic is not anticipated to increase as the trips correspond with regular comings and goings from home.
 - ii. 2500 Sq foot Outdoor or Mixed Light
 - 1. No full time employees expected.
 - 2. Likely one part-time employee expected Early Nov - Mid Nov for a period of 2 week.
 - iii. 5000 sq foot Outdoor or Mixed Light
 - 1. 1 part time employee expected Sept - Nov.
 - 2. Likely two part -time employees expected Early Nov - Mid Nov for a period of 2 weeks.
 - iv. 10,000 sq foot Outdoor or Mixed Light
 - 1. 1 full time employee expected Sept - Nov.
 - 2. Likely three part -time employees expected Early Nov - Mid Nov for a period of 2 weeks.

15. Potential impacts on **Utilities and Service Systems** will be mitigated due to:

- a. Beginning January 1, 2023, all indoor, tier 2 mixed-light license types of all sizes, and nurseries using indoor or tier 2 mixed- light techniques, shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program, division 1, part 1, chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code. (*CDFA Proposed Regulations § 8305. Renewable Energy Requirement*). Failure to comply with these provisions is considered to be a “serious” offence by CDFA, subject to the harshest penalties.

- b. The number of regulated cultivators will likely be less than the unregulated market at present, in which case no added load to water, electrical, and waste management are anticipated.
- c. State licensing will require all licensed cultivators to meet all Waterboard requirements, which include confirming source of water and disposal of wastewater.

16. Potential impacts on Mineral Resources will be mitigated due to:

- a. According to the Nevada County General Plan, Chapter 17: Mineral Management Element, the below goals and objectives have been prioritized to reduce impacts on local mineral resources.
 - i. Goal 17.1 Recognize and protect valuable mineral resources for current and future generations in a manner that does not create land use conflicts.
 - ii. Objective 17.1 Protect valuable mineral deposits from intrusion by incompatible land uses that will impede or preclude mineral extraction or processing. Promote the proper management of all mineral resource activities in the County and minimize the impact of extraction and processing on neighboring activities and the environment in general

17. Potential impacts on Energy Conservations will be mitigated due to:

- a. Beginning January 1, 2022, an application for renewal of a license shall include the following records for each power source indicated on the application for licensure for the previous annual licensed period: (*CDFA Proposed Cultivation Ordinance, Sec 8203, Renewal of License*)
 - i. Total electricity supplied by local utility provider, name of local utility provider, and greenhouse gas emission intensity per kilowatt hour reported by the utility provider under section 398.4(c) of the Public Utilities Code for the most recent calendar year available at time of submission;
 - ii. Total electricity supplied by a zero net energy renewable source, as set forth in section 398.4(h)(5) of the Public Utilities Code, that is not part of a net metering or other utility benefit;
 - iii. Total electricity supplied from other unspecified sources, as defined in 398.2(e) of the Public Utilities Code, and other on-site sources of generation not reported to the local utility provider (e.g., generators, fuel cells) and the greenhouse gas emission intensity from these sources;
 - iv. Average weighted greenhouse gas emission intensity considering all electricity use in subsections (1), (2), and (3).
- b. All cultivation applications must include the specific power source for all cultivation regulations - including, but not limited to illumination, heating, cooling

and ventilation (*CDDFA Proposed Cultivation Regulations, Sec 8102,S, Annual License Requirements*)

- c. Beginning January 1, 2023, all indoor, tier 2 mixed-light license types of all sizes, and nurseries using indoor or tier 2 mixed- light techniques, shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program, division 1, part 1, chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code. As evidence of meeting the standard, licensees shall comply with the following: (*CDDFA Proposed Cultivation Regulation, 8305. Renewable Energy Requirements*)

(a) If a licensee’s average weighted greenhouse gas emission intensity as provided in section 8203(g)(4) is greater than the local utility provider’s greenhouse gas emission intensity, the licensee shall provide evidence of carbon offsets from anyof the following sources to cover the excess in carbon emissions from the previous annual licensed period:

(1) Voluntary greenhouse gas offset credits purchased from any of the following recognized and reputable voluntary carbon registries:

- 1. (A) American Carbon Registry;
 - 2. (B) Climate Action Reserve;
 - 3. (C) Verified Carbon Standard.
- ii. (2) Offsets purchased from any other source are subject to verification and approval by the Department.
 - iii. (b) New licensees, without a record of weighted greenhouse gas emissions intensity from the previous calendar year, shall report the average weighted greenhouse gas emissions intensity, as provided in section 8203(g)(4), used during their licensed period at the time of license renewal. If a licensee’s average weighted greenhouse gas emissions intensity is greater than the local utility provider’s greenhouse gas emissions intensity for the most recent calendar year, the licensee shall provide evidence of carbon offsets or allowances to cover the excess in carbon emissions from any of the sources provided in subsection (a).

18. Potential impacts on Greenhouse Gas Emissions will be mitigated due to:

- a. See “Air Quality” section 3 above re: generator restrictions
- b. See “Transportation and Traffic section 14 above.
- c. See Utilities and Service Systems section 15 above.
- d. See “Energy Conservations” section 17 above.
- e. Cannabis respire quicker than any other plant grown in the county. To go from a seedling or clone, to potentially 8-10' in 6 months (may-october) is remarkable!

Its growth rate alone proves its ability to respire, therefore eating CO₂ & releasing O₂ quicker than any other annual crop.

Hengl, Tasha

From: Patricia Andersen <leeandersen@msn.com>
Sent: Monday, August 27, 2018 9:29 AM
To: Planning
Subject: Water focus of pot meeting: Allison Durham

To Brian Foss, Nevada County Planning Dept. Maidu Ave. Nevada City CA 95959

The subject person, Allison Durham states there was no well problems UNTIL cultivation site for marijuana moved next to her property. Yet, the county does not regulate ground water according to what you are quoted in the Union. I own a well and it is one of my chief concerns that my water supply would deminish. I know I am not alone in this. My late husband and I purchased an adjoining lot for approximaely \$95,000.00 in order to get the well water available on that land, and then laid pipe for several yards in order to receive adequate water supply for our home. Do I want neighbors to plant marijuana crops and use my ground water and cost me to buy my water? Does anyone? The county did not need to regulate ground water until the marijuana grow appeared on our scene. Now that situation is changed. The county needs to add that they DO control ground water when the marijuana growers infringe on other people's ground water so much that it causes them to have to get water from another source such as purchasing it. If the county wants to allow marijuana (and it is all about dollars) then the county should protect the innocent by standers whose very property rights which include their water rights to not be infringed. From the person who does not use, grow, want, approve of marijuana, it looks like the inmates have taken over the asylum.

Patricia Lee Andersen
12084 Rainbow Road
Grass Valley, CA 95949
530-274-0545

Hengl, Tasha

From: Richard Anderson <Richard.Anderson@co.nevada.ca.us>
Sent: Friday, August 31, 2018 3:48 PM
To: Brian Foss
Subject: East-County Scoping Comments for Nevada County Cannabis Cultivation Ordinance

Follow Up Flag: Follow up
Flag Status: Flagged

Brian, I was at Truckee's Town Hall today from 1:30 until 2:30 to receive scoping comments for the above-referenced EIR. Two members of the public came. Their comments are below, as are their e-mail addresses. Please have them placed on the contact list for future communications related to the ordinance and its CEQA review.

1. Ray Butler, Truckee resident; e-mail: rwbutler338@att.net Ray serves on the County's Fish and Game Commission. His concerns are:

a. Impact of grow-related pesticides (e.g., herbicides, insecticides, rodenticides) on fauna and flora. Wants to make sure usage guidelines and other mitigations are in place to prevent overusage / overexposure.

b. Impact of grows on neighbors' wells.

c. Dewatering of streams -- notes that this is a concern for both sides of the county, and that streams are already suffering from grow-related drawdowns on the western side of the county.

d. Impacts from the discharge of water used in hydroponic equipment. He believes the water needs to be replaced now and then. Impact on wastewater systems?

e. Electricity use for indoor grows and greenhouse gas implications.

f. Public safety impact -- would cultivation or the activities associated with it lead to an increased risk of wildfire?

g. Fiscal impact to law enforcement.

h. Need to recognize that with global warming, east-county grows may shift from indoors to outdoors, with a possible change in impacts.

2. Ron Rettig, Truckee resident; e-mail: ronrettig@gmail.com

a. Loss of federal funds to County as a result of allowing cannabis cultivation that violates federal law. Loss of funds means reduced ability to police environmental impacts from grows.

b. Increased fire risk in unincorporated area due to unsafe/illegal wiring of grow structures, generator usage, fuel storage, and cultivation workers living in forest.

That's it. Let me know if you need my written notes.

-Richard

Hengl, Tasha

From: Rosemary Metrailler <rmetrailler@metrailler.com>
Sent: Monday, September 10, 2018 10:16 AM
To: Planning
Subject: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report

Brian Foss, Planning Director

Brain - I am writing you to submit comments on the recently submitted NOP. As you know, I served on CAG, grew up and worked on a family farm, and I've been a business attorney for over 40 years. I am very concerned about the tone of the EIR NOP I just reviewed. I do not have the time or expertise to comment on specific aspects of the proposed NOP, and will leave that to others who do. I can, however, comment knowledgeably on the punitive tone of the document thus far, and I am urging you to take charge on this and make some important changes to the final product.

Brian, this is not a study for poppy fields in Afghanistan. This is a study for a legal agricultural crop that creates medicinal products for patients. It is a study for our farmers in our county who are trying to run a highly regulated business in a very competitive market. They closely monitor their crop, they tend and tweak it personally, and they are minutely regulated by several state agencies.

My concern is that just as we were treated at CAG, the tone of the proposed study so far is wholly focused on the agricultural products as if they are illegal substances. This is state approved and monitored medicinal cannabis. Please, can't you finally get your paid consultants to treat it as such? These are legal crops that many honest farmers in our county want to grow legally to support their families and provide medicines for people who need them. The focus of the EIR should be on ensuring they can do this work in a safe, environmentally sound, and commercially affordable manner, not on putting up roadblocks and hurdles at every turn. The EIR should not be used as a tool to block reasonable development in the cannabis field any more than in any other field; it should be used to protect our water and other natural resources without wholly preventing people from using their land and doing the work that is important to them and their families.

It's bad enough the Board has ignored many of the CAG's recommendations, including the reasonable limits we suggested for R-A zones. Now even the EIR will be rigged to make it difficult if not impossible for many, perhaps most of the folks who came to every meeting trying at great personal risk to help fashion fair and reasonable rules to make a living. We need to do better for our county and our local farmers, many of whom are the future of our county. Please, change the tone of the NOP and direct the consultants doing this work to make this study encourage good cannabis farmers and allow them success in their businesses. Don't let the whole process be dominated by the few folks who can't handle a few weeks a year of strong smells that frankly pale in comparison to pig farms, chicken farms, tomato trucks, etc. Please, Brain, we and you can do better on this.

Thank you for listening,
Rosemary

Rosemary Metrailler
Attorney/Business Consultant (retired)
11344 Scotts Flat Dam Road
Nevada City, CA 95959
VM/Text Message (530)263-7616

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Hengl, Tasha

From: Sara Fors <sara.fors1@gmail.com>
Sent: Wednesday, September 5, 2018 3:28 PM
To: Planning
Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

Hello Mr Foss.

First of all I wanna thank you for your work and contribution in our county.

I think it is important to understand what CO2 enrichment is and how it affects indoor cannabis cultivation. CO2 is an essential molecule for the chemical reaction photosynthesis in plants. When you grow any plant in a closed room the atmosphere within said room changes as the plant uses the CO2 and transpires oxygen. This means the CO2 must be replenished, this occurs in two ways with CO2 enrichment from a CO2 burner or passively introducing CO2 from the atmosphere outside the room. There are several problems with passive CO2 introduction first is the smell, second are the pests, and third is the degradation of quality medicine.

When CO2 is brought into the closed indoor cultivation room it is brought in through fans from the outside atmosphere, but this means that air from within the room must be pushed out of the room through an exhaust fan. This air being exhausted is full of terpenes that carry the distinct cannabis scent. After months of attending public meetings on the proposed local cannabis ordinance it appears that smell is one of the biggest public nuisance complaints. This problem can be solved by allowing the use of CO2 enrichment because there is no air from the outside being pulled in and there is no "smelly" air being blown out. That being said let's address the second problem which are pests...

When you bring in CO2 from the outside atmosphere you are literally bringing in everything else that makes up that atmosphere as well and often that includes pests such as fungus gnats, mites, mold, smoke, and other pollutants. Therefore by allowing CO2 enrichment you are drastically reducing the chance of a pest infestation or other contaminants. This means the county will be reducing the amount of pesticides that need to be used to control said pests. This leads me to the final problem with passive CO2 and that is the degradation of quality medicine.

Cannabis cultivation in Nevada County is only allowed for medicinal purposes this means that every cannabis product created here will be treating a medical patient. Patients are looking for the best quality medicine and this quality is determined through the levels of cannabinoids (CBD,CBG,CBN,THCA,etc.) as well as terpenes. These levels are increased with CO2 enrichment as more CO2 is available to the plant than would naturally be available to them from the atmosphere. Currently the atmospheric content of CO2 is around 400 PPM the levels found in a controlled indoor cultivation site should be above 1000 PPM to produce the best quality medicine as well as increase the yield through the increased rate of photosynthesis.

This brings me to the my last point a clear benefit of CO2 enrichment and that is the increased yield attributed to higher levels of CO2. Nevada County is allowing a maximum cultivation size of 10,000 square feet this is a quarter of the size of a cannabis cultivation site currently allowed in the state of California. It is essential that the small farmers that make up the Nevada County cultivators maximize their production with what they are allowed in order to compete with the rest of the state.

Please include CO2 enrichment in the draft commercial cannabis ordinance for Nevada County.

Like I said at the high school I am more than willing to help in anyway that I can with the EIR and would like to invite you and/or Jeff (Contracted EIR agent) to our farm to assist in anyway we can with the EIR and the further development of the local cannabis ordinance.

Thank You

Sara Fors

RECEIVED

SEP 10 2018

September 10, 2018

Nevada County Planning Commission/To Whom it May Concern:

Nevada County
Community Development Agency

This letter is written as public comment regarding the 2018 Nevada County EIR for Commercial Marijuana Growing. The intention of this letter is to highlight the negative impacts of Marijuana growing to the tax payers and legal citizens of Nevada County. Attached, are supporting documents giving weight to these statements as fact, and not the opinion of this writer. It is my belief that the county government and law enforcement of Nevada County has thus far been ineffective, boarding on negligent, in their handling of the health and safety issues which are plaguing the local community as a result of the marijuana grows in our community. With these increasing problems, it is clear the issue is well beyond the capabilities of this small, rural county to handle, and Nevada County is long overdue for requesting federal assistance with the federal and state violations running rampant in our county. It is therefore, unthinkable, and defacto-negligence to believe that Nevada County has any capability to enforce any of the regulations they might create for a commercial growing industry, when they have failed to regulate even small illegal grows. To avoid federal liability to individual citizens for the health and safety issues of their thus far unsuccessful enforcement, Nevada County has no choice but to remain in compliance with the six plant state maximum and abandon this attempt to introduce environmental atrocities into our community any more than they already have. County efforts and tax payer funds going forward should focus on reduction of the self-stated 3500 illegal grows in Nevada County and bringing the state and federal criminals who are running them to justice.

WATER:

The primary concern of most of us is safe drinking water. My drinking water comes from a spring which has fed my home since 1867. It is surface drinking water, yet in 2014 the county illegally and without notice or permission installed a storm drain less than 20 feet from the spring. Now two illegal grows dump enormous amounts of fertilizer and chemicals into my water. I am responsible for all the water testing to ensure my water is potable, and these costs have gone up dramatically. Despite all my attempts to get law enforcement to come help me, I am told that unless I have proof a crime is being committed (i.e. pictures of the grow) they will not come out. Since I am not sure exactly which of my 9 pot growing neighbors is the actual environmental culprit, the county offers no assistance. Essentially, if I do not do my own investigating, which is dangerous and typically illegal, law enforcement and the county, will do nothing and the poisoning of my water will continue. Considering my spring drains into a California Protected Wetland, one would think the county would seek to reduce its state and federal liability for its illegal storm drain by at least monitoring the EPA violations that come out that drain every time it rains. Yet despite by best efforts, no help has been made available to me by Nevada County government or law enforcement.

My case is merely illustrative of the crux of the problem. I am just one of many with similar ground water contamination issues. All over the county, tax payers who are low income, dependent adults, children, elderly, and animals are helpless to protect their clean water. They are incapable financially or otherwise to maintain the kind of extensive water testing that is required to protect

against pesticides, rat poison, and toxic fertilizers, and are subsequently being victimized by the environmental terrorists claiming to be “business people.” Rather than offer support to these tax payers and residents whom Nevada County represents, ensuring public health and safe drinking water is Priority #1, the county is looking to increase the amount of toxins to which they are being exposed. No funding is currently available to anyone for water testing to ensure they are not victimized by these criminals, and yet the tax payers are paying for an EIR to increase the growing which is the root problem. If this is not a breach of responsibility to the tax payers, I’m not sure what is.

The nature of our geology and soil here are of additional concern. As stated by the Nevada County Director of Building in the Union article “Shaft Shifting” (see attached documents), the surface and soil is “where the problems occur.” He indicates we know very little about the soil and geological makeup of each parcel because the mining maps are incomplete or long-gone and the “geotechnical reports” are required to ensure high-value residences and business are not built on top of shifting soil or collapsing mine shafts. If shafts, which essentially offer no filtration before the contaminants hit the water table are an issue for sealed septic tanks, the carcinogenic and lethal chemicals associated with marijuana growing are of a much greater concern. Any commercial growing should require extensive geotechnical surveys and notifications to anyone potentially in the contamination zone. Policies must be in place to ensure residents are not negatively impacted in any way by the contamination and immediate shut-down procedures must be at the ready. Commercial grows will attempt to continue their growing and try to resolve issues in court at a later time, and that, for the health of the residents, cannot be allowed. No commercial endeavors of any kind should ever disrupt the peace and health of existing residents in residential neighborhoods.

Cannabis growers will of course protest to the high cost associated with extensive geotechnical and environmental studies for proposed sites, however, it is a known fact that commercial agriculture is a highly toxic, and therefore highly regulated industry. The high price of produce in our stores reflects the high production cost in a human-consumption products industry. To propose a commercial growing policy which puts any of the cost on the tax payers, or excuses cannabis grows from total EPA and USDA farming requirements, is once again, opening Nevada County up to serious risk of legal action against it by the citizens who are negatively impacted. Water suits against governments and water districts are common and increasing and the tax payers should not have to shoulder the burden of the county defending itself against suits brought by its own tax payers and residents. At this time, the Cannabis growers in Nevada County do not recognized the risk and are actively working to limit their own legal liability, which will naturally shift the liability of any future action to the governing bodies who approved the projects.

Nevada County claims to be actively working on the water quality issue. Yet despite the increase in Harmful Algal Blooms (HAB) all over California, and in the Deer Creek Watershed, neither Nevada County nor NID (Nevada Irrigation District) is currently a member of the California Cyanobacteria and Harmful Algal Bloom (CCHAB) Network (https://mywaterquality.ca.gov/monitoring_council/cyanohab_network/index.html) which is the California State agency dedicated to the problem. Counties currently on the committee include: San Mateo, Del Norte, Lake, Sonoma, and Siskiyou. Organization and water districts on the committee include: The Metropolitan Water District of Southern California, Santa Clara Valley Water District, City of Watsonville, The Yurok Tribe, UC Davis, UC Santa Cruz, and the US Department of Water Resources, just to name a few. The absence of Nevada County from these essential conversation about water safety, is

inexcusable. And to attempt to tell us, the citizens of Nevada County, that any legitimate attempts are being made to determine the impact of Commercial cannabis grows, appear to have no basis in fact or empirical evidence to support that claim. An EIR prepared by a county, which is not even participating in research or discussions at the state level on water quality, is a farce at best. Once again, the liability of health issues will fall heavily on the county if an EIR is found at the state or federal level to have been insufficiently or improperly prepared.

CRIME:

Simply put, marijuana equals crime. The environmental crimes committed are second only to the state and federal crimes. Of concern are labor laws, prostitution, distribution and trafficking of schedule I drugs within the state and across state lines, weapons crimes, EPA violations including criminal poisoning of wildlife, fleeing felons and fugitives being harbored in our rural forests, methamphetamine and opiate use/abuse/trafficking, traffic violations, DUIs and DWIs, illegal transport of hazardous materials (butane being delivered in the trunks of cars to local smoke shops) and white collar crimes such as tax evasion and banking fraud.

Sex trafficking is common in the industry and the practice is often to trade marijuana for sex (the industry often refers to these people as "terp sluts" a reference to the chemicals in marijuana known as 'terpene') yet no arrests have been made by law enforcement at grows for prostitution, showing they have no control over the sex-trade industry when it comes to marijuana grows. A prostitute visits a grow near my home 3 times a week on a very regular schedule, yet despite my frequent calls to the sheriff, nothing has ever been done, and no official report has ever been taken from me on this woman. Human trafficking of undocumented immigrants to use as mules for marijuana in exchange for passage across the border has been common for years. The cartel is known to run many of the grows in our area, most of which are tended by people brought here under human trafficking crimes. Any funds used for and EIR to increase growing, would be better diverted to a sex-crimes and human trafficking division of the Sheriff's Department. The inability for the Sheriff's department to handle the crime related to the illegal grows, indicates they have no additional resources to allocate to the compliance of commercial growing, which means commercial grows, despite any laws the county may enact, will be able to operate without fear of oversight by law enforcement, simply because our Sheriff's department is understaffed, and unequipped to handle the job.

In 2017 the DEA seized 2,829 illegal weapons nation wide in in Marijuana Eradication Program. If each of Nevada County's 3500 estimated illegal grows only have 1 illegal weapon or firearm each, which is a very conservative estimate, we have just under **25% MORE WEAPONS** in Nevada County alone, that were seized in the entire United States by this program (See attached DEA information sheet). These weapons are very real, and they are in the hands of convicted felons living in our woods as we speak. The Nevada County Sheriff has made little headway on this problem and is completely ill equipped to fight the organized crime supplying the weapons and marijuana growing accoutrements to these illegal grows. These armed criminals move amongst our children and citizen unchecked, and are a gun-violence crisis waiting to happen. Pseudo charity organizations such as the Sacramento based Weed for Warriors, proudly claim on the internet to have huge illegal grows in Grass Valley, yet none have ever been raided or shut down.

Simple crimes such as traffic violation also are a serious issue. Every day, without exception, I see someone at the intersection of Sutton and Brunswick actively smoking marijuana while operating a vehicle. There is often a GVPD squad nearby but I have yet to see any one of these vehicles pulled over. Out of state and expired license plates are everywhere, and despite the California state law that requires vehicles to be registered in CA within 30 days, these same out of state vehicles have been driving our roads and freeways all growing season (February until the present) without paying the taxes or registration fees which cover their usage. At the Nevada City Council meeting last month, a resident raised the issue that Nevada City is failing to enforce the California State law prohibiting the smoking of marijuana in public places. The individual said the smoke is so thick in Nevada City on Saturday night the he can almost get "stoned" walking down the street. Rather than respond to this 30-year local with apologies and adding the issue to the agenda, as would be appropriate for city government, the entire city council merely chuckled, while someone in the audience said "Hey, it's the emerald triangle, what did you expect?" What we expect is our government and law enforcement to do their job, and do it right. With such a flippant attitude toward enforcement of even the simplest of marijuana state laws, it is realistic to believe similar flippancy will be taken with regard to Commercial Growing Compliance Laws.

CIVIL:

Many Nevada County residents live in rural areas in old homes which are grandfathered with regard to electrical code. These homes are often on old PG&E grids which are hardly able to keep up with the modern demands of technology. These same areas are the ones slated to receive huge commercial indoor grows. The power grid cannot handle the increase load and will, unquestionably fail regularly. This leaves elderly and infirmed people at risk of illness or death due to heat or cold if the power fails on their HVAC home systems. People on home medical supportive devices could be dramatically impacted if the power draw causes outages in their area.

Traffic is also a serious concern. The commercial industry as attracted people from all over the world to our area, and they are driving our streets without following traffic laws. The increase in running of stop signs, red lights, and failure to signal, which are common driving practices in southern Californian and the bay area have become common place here. Accidents involving individuals under the influence of marijuana are increasing in frequency, and we all know too well how the fatal accidents on 49 are robbing us of our loved ones. The introduction of commercial grows to the area will only serve to stress our already over-crowded streets, schools, and stores, and leave us vulnerable to the problems of congestion that should be solely in the urban community. The problem of over-population of our small town is already an issue, with law enforcement and county government having shown no ability to maintain a comfortable and safe civil environment. The introduction of a commercial industry to the already unchecked problem will only increase the problems at hand. If civil management were possible by the governing bodies in office, it would already be happening. Clearly any increase in work load for the sheriff or planning commission will only lead to less resources available to solve these problems, which as of yet are unsolved.

QUALITY OF LIFE:

Marijuana and its commercial pursuits have dramatically reduced the quality of life in Nevada County. Quiet county roads are now rumbling with the noise of heavy equipment and diesel trucks all day. Dust, mudslides, noise, odor, and degenerate people are now all over our once peaceful woods. Generators hum all day and night. Water is routed away and backyard streams have dried up. Marijuana use by our children and teens is rising rapidly with no end in sight and no plan by local government to make changes. Filthy people with horrible personal hygiene are in our stores and restaurants, and defecating in the woods at the grows near water, potentially exposing us to contagious diseases such as hepatitis, E. coli, or even simple head-lice due to our open NID water system. Homeless people, attracted by the easy money for trimming marijuana, also inhabit the creek beds and watershed areas of the county, the communicable waterborne diseases they pollute the water with, going unchecked and unaddressed. The well-dressed, slick growers, who are yelling on their cell phones in Safeway about their grows using the most foul language imaginable, have become common place. Yet never once have we seen an officer stop such an individual and question him about the criminal marijuana to which he was loudly and publicly referring to by name.

The general sentiment of the youth of Nevada County is that they plan to grow weed because no job will be that easy or pay that much. The pursuit of commercial growing has nearly eradicated the long-standing proud rural and agricultural communities of Nevada County, replacing them with environmental criminals, motivated not by community, but only by greed. As noted by Jerry Karnow President of the Game Wardens association in the attached article "Pot Grows Endanger Nature, Risk Public Health," legal grows are just as much of a problem as illegal ones, and indicates that despite their original intentions to comply with the law, "greed just takes over," and the legal grows get non-compliant, which translates to health, safety, and quality of life degradation of the citizens. Without a comprehensive plan to ensure that no harm comes to the people of Nevada County as a result of commercial growing, going forward with a commercial growing policy is negligent and potentially fraudulent, considering the copious amount of information given to the Planning Commission which indicates no commercial growing should be allowed. And to take tax payer money to prepare and EIR which is done on behalf of the commercial growers, and NOT ON BEHALF OF THE CITIZENS, could be interpreted as misappropriation of funds. The Commissioners should be very cautious and consider their own personal liability with regard to both criminal and civil suits should any negative impact, which could clearly have been identified upfront, befalls the people of Nevada County in relation to the commercial growing of marijuana.

In conclusion, this EIR is a sham. It is a waste of tax payer funds, and will, unquestionably leave the citizens and tax payers at a disadvantage, giving the power over our community, homes, and safety, to the cannabis growers. The extent of the environmental damage that commercial marijuana causes is the only factor still in question, there is no question that degradation of water quality and loss of habitat and wildlife are the direct spawn of commercial marijuana industry. We don't need an EIR to show commercial growing is harmful and currently unregulated and unable to be regulated, that's a fact well established by the state of California, a governing body which is superior to the authority of Nevada County. Nevada County has clearly demonstrated an inability to manage the pesticides in our water, the toxins in our soil, the land slides, the destruction of forest and chaparral habitats, the influx of petty and high-level criminals (we have a terrible conviction rate disregarding plea bargains and even child molesters walk free if they plea bargain well). Native American, mining, and early Chinese artifacts are

being lost forever because of illegal construction of greenhouses and tilling of land in our historic mining and native places. Areas which are just now recovering their top soil from the destruction of hydraulic mining, are now being destroyed by even legal growing practices. The commercial marijuana growing industry needs to be relegated to areas of California already set up for heavy commercial agriculture. Counties, such as ours, with no long standing history of water quality records, no requirement of USDA highest and best use of land evaluations, no soil sampling, and no extensive water shed or geological mapping, must prohibit commercial operations for the health and safety of its population. Consequently, we also have an opportunity to pilot program assisting people with personal growing. Helping individuals who need cannabis for medical condition get access to safe medication by teaching growing practices and providing equipment to disabled or financially disadvantaged patients, without risking the health and safety of the community at large, would be a very productive direction for the Planning Commission and other county agencies to take. It is well accepted by both supporters and opponents of the Cannabis community that marijuana is not the problem, the growers are. Growers have demonstrated a total disregard for the health and safety of our community, and the Nevada County Planning Commission must cease its loyalty to the creators of the problem, and start actually addressing the damage they have already caused, placing its focus back on the law-abiding citizens and tax payers of Nevada County.

Respectfully,



Sarah Johnson, Nevada City 35-year resident

(858) 531-0885 cell



California Cyanobacteria and Harmful Algal Bloom (CCHAB) Network

[California HABs Portal](#) | [Background and Description](#) | [Subcommittees](#) | [Products](#) | [Membership](#) | [Meetings](#) | [More Information](#)

[Report A Bloom](#)

Announcements

- SWAMP released a [Statewide Freshwater Harmful Algal Bloom Assessment and Support Strategy](#) that outlines actions and infrastructure being developed to support local response to HAB events.

Mission

- To work towards the development and maintenance of a comprehensive, coordinated program to identify and address the causes and impacts of cyanobacteria and harmful algal blooms (HABs) in California.

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Background and Description

The CCHAB Network, formerly the Statewide Blue-Green Algae Working Group, was established in 2006 in response to record-setting toxin producing blooms in the Klamath River reservoirs. Since its establishment, the CCHAB Network has developed guidance for responding to HABs, including action levels for cyanotoxins; held trainings on HAB identification and sampling; and funded a number of grant projects. These efforts demonstrated a need for the development of a long-term vision and strategic plan for identifying and managing HABs in California. Four key goals were identified – prioritization of management questions, synthesis of existing data, identification of data gaps, and the development of communication tools.

[Adopted Charter](#)

Objectives of the CCHAB Network?

Develop a unified multi-entity program to identify and address HABs in California's freshwater ecosystems.

Promote improvements in, and coordination of monitoring assessment, reporting, and management of HABs in California.

Develop collaborative relationships among entities (e.g. federal, tribal, state, and local agencies, academic researchers, end-users and stakeholders) responsible for addressing HAB concerns and impacts on beneficial uses.

Coordinate with the California Harmful Algal Bloom Monitoring and Alert Program (CalHABMAP).

Make efficient use of federal, tribal, state, regional, and academic resources to address cyanobacteria and HAB concerns by sharing information to avoid duplicative efforts; promoting research, monitoring, and assessment; identifying technical and policy gaps; and communicating HAB concerns to the public.

Work collaboratively toward public awareness of the risks associated with HABs to people, pets, livestock and wildlife

CCHAB's Relation to the Monitoring Council?

The CCHAB Network is a workgroup of the California Water Quality Monitoring Council. The Monitoring Council establishes common policies and guidelines for the workgroups and the programs they represent, acts as a clearinghouse for standards, guidelines, and collaboration; resolves key issues that affect multiple workgroups; provides support for workgroup actions, and improves visibility of workgroup efforts. The CCHAB Network will keep the Monitoring Council apprised of progress towards workgroup goals and will raise issues to the Monitoring Council that cannot be resolved within the workgroup or that may affect multiple workgroups of the Monitoring Council.

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Subcommittees

[CCHAB Subcommittees](#)

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Products

CyanoHAB Guidance for Recreational Water Uses

When a cyanoHAB is occurring, it is critical that there is understanding of the cyanobacteria and cyanotoxins present and communication of the risk to protect public health. Currently, there are no federal or state standards for cyanotoxins in drinking water and recreational waters. Participating agencies - State Water Board, OEHHA, and CDPH - have developed and are further refining suggested guidelines for addressing health concerns for cyanotoxins in recreation waters. The Department of Public Health, county health departments, and water body managers are encouraged to use this guidance for posting of water bodies when cyanoHABs pose a health threat.

- [Blue-Green Algae Draft Voluntary Guidance Document, prepared by CCHAB Network, 2010](#)
- [2016 Updates to the Document Linked Directly Above](#)
 - [Decision Tree & Narrative for Posting and De-Posting Health Advisories for CyanoHABs](#)
 - [CyanoHAB Trigger Levels for Protection of Human Health](#)
 - [Appendix A - Description of cyanotoxin trigger levels in recreational water bodies](#)
 - [SIGNS: The PowerPoint files allow deletion of individual icon/text message components that may not be appropriate for a specific water body. However, text with each component cannot be changed. Components may be moved to allow more space for local agency contact information \(text box at the bottom of each sign\). Signs are available in both English and Spanish. \(version 8/5/2016\)](#)
 - [In-House Printing \(PowerPoint format\)](#)
 - [English](#)
 - [Caution](#)
 - [Warning](#)
 - [Danger](#)
 - [Spanish/en Español](#)
 - [Caution/Precaución](#)
 - [Warning/Advertencia](#)
 - [Danger/Peligro](#)
 - [Commercial Printing \(PDF format\)](#)
 - [English](#)
 - [Caution](#)
 - [Warning](#)
 - [Danger](#)
 - [Spanish/en Español](#)
 - [Caution/Precaución](#)
 - [Warning/Advertencia](#)
 - [Danger/Peligro](#)
 - [Sign Icons \(PowerPoint format\)](#)



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Membership

California Cyanobacteria and Harmful Algal Bloom Network is made up of a diverse group of stakeholders that address, research, manage, and/or regulate cyanoHAB concerns in California. The CCHAB Network is composed of federal agencies, state agencies, tribal governments, local agencies, academics and researchers, and other stakeholders.

Co-Chairs

David Caron

University of Southern California
Phone: 213-740-0203
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Sarah Ryan

Big Valley Band of Pomo Indians
Phone: 707-263-3924 x132
Email: sryan@big-valley.net

Becky Stanton

Office of Environmental Health Hazard Assessment
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Email: Rebecca.Stanton@oehha.ca.gov

Participating State Agencies

State Water Resources Control Board
and Regional Water Quality Control Boards

California Department of Public Health (CDPH)

Office of Environmental Health Hazard Assessment (OEHHA)

California Department of Fish and Wildlife



California Department of Water Resources

Participating Federal Agencies

National Oceanic and Atmospheric Administration

U.S. Environmental Protection Agency

US Fish and Wildlife Service

U.S. Geological Survey

Other Participating Organizations

Big Valley Band of Pomo Indians

California State University, Moss Landing Marine Laboratories

City of Watsonville

City of San Mateo

Defenders of Wildlife

Del Norte County Department of Health and Human Services

Elem Indian Colony

Humboldt County Department of Health and Human Services

Karuk Tribe

Lake County Health Services Department

Metropolitan Water District of Southern California

PacifiCorp

San Francisco Estuary Institute

Santa Clara Valley Water District

Siskiyou County Health and Human Services Agency

Sonoma County

Southern California Coastal Water Research Project

University of California at Davis

University of California at Santa Cruz

Yurok Tribe



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Meetings

2018

- January 25, Natural Resources Building – CA Department of Water Resources 1416 Ninth Street, Sacramento, CA
 - Agenda
 - Notes
 - Presentations:
 - Review of State Freshwater HAB Programs - A Short Introduction - Beckye Stanton, Office of Environmental Health Hazard Assessment
 - Citizen Science Monitoring for Harmful Algal Blooms - Erick Burres, CA Water Boards
 - Division of Drinking Water: One of Many Partners During HABs Response - Amy Little and Sheri Miller, Division of Drinking Water
 - One Health Harmful Algal Bloom System (OHHABS) - Susan Paulukonis, California Department of Public Health
 - Effect of Sample Handling on Anatoxin-a Stability - Gabie Gutierrez, Bend Genetics
- April 26, Costa Mesa
 - Agenda
 - Monitoring multiple HAB toxins at the land-sea interface - Meredith Howard, Southern California Coastal Water Research Project (SCCWRP)
 - Nationwide Assessment of HABs - Beckye Stanton, Office of Environmental Health Hazard Assessment (OEHA)
- August 3, Sacramento
 - Agenda
 - Meeting Notes

- [Program Updates](#)
- October 15th, Sacramento
 - [Agenda](#)
 - [Program Update Template](#)
 - Please fill out and submit to Joseph Westhouse (Joseph.Westhouse@waterboards.ca.gov) and the co-chairs listed above prior to, or within 1 day following the meeting.

2017

- October 26, CCHAB Network Sacramento – San Joaquin Delta Conservancy Conference Room, 1450 Halyard Drive, Suite 6, West Sacramento, CA 95691
 - [Agenda](#)
 - [Notes](#)
 - Presentations:
 - [From Green Water to Gene Counts](#) - Tim Otten, Bend Genetics
- July 27, CCHAB Network Meeting Sacramento
 - [Agenda](#)
 - [Notes](#)
- April 13, CCHAB Network Meeting Sacramento
 - [Agenda](#)
 - [Notes](#)
- January 26, CCHAB Network Meeting Sacramento
 - [Agenda](#)
 - [Notes](#)
 - Presentations:
 - [Lessons Learned from 2016 HABs season](#) - Beverley Anderson-Abbs
 - [NPDES Aquatic Pesticide Permits](#) – Russell Norman
 - [EPA HABs Webinar announcement](#) - U.S. EPA R9

WARNING

Toxins from algae in this water can harm people and kill animals



For people, the toxins can cause:

- Skin rashes, eye irritation
- Diarrhea, vomiting

For animals, the toxins can cause:

- Diarrhea, vomiting
- Convulsions and death

Call your doctor or veterinarian if you or your pet get sick after going in the water.

**For information on harmful algae, go to mywaterquality.ca.gov/monitoring_council/cyanoHab_network
For local information, contact:**

2016

- September 29, CCHAB Network Meeting Sacramento
 - [Agenda](#)
 - [Draft Charter](#)
 - [Subcommittee List](#)
 - [Draft Notes](#)
 - Presentations
 - [Update on Clear Lake cyanotoxin monitoring program](#) - Sarah Ryan and Karola Kennedy
 - [PG&E efforts to reduce and mitigate HABs](#) - Edward Cheslak
 - [CDC One Health Harmful Algal Bloom System \(OHHABS\) Update](#) - Sandy McNeel
- June 30, CCHAB Network Meeting Sacramento
 - [Agenda](#)
 - [Notes](#)
 - [Draft CCHAB Network Charter](#)
 - Presentations
 - [CCHAB Charter Development Sub-committee Report](#) - Angela Murvine
 - [EPA Update on Development of Recreational Ambient Water Quality Criteria for Cyanotoxins](#) - John Ravenscroft
 - [California Water Quality Monitoring Council's HABs Initiative](#) - Jon Marshack
 - [Evidence-based Community Input for CyanoHABs Signage](#) - Lori Copan and Sandy McNeel
 - [OHHABS: One Health Harmful Algal Bloom System](#) - Sandy McNeel
- May 31, CCHAB Signage Field Testing
 - [CyanoHABs Field Testing Presentation](#), presented by Lori Copan
- April 13, CCHAB Network Meeting Sacramento
 - [Agenda](#)
 - Presentations
 - [Use of Satellite to Examine CyanoHABs in California's Large Waterbodies](#), presented by Randy Turner
 - Co-Chairs: Zane Poulson, Susan Fricke and Meredith Howard
 - [Subcommittees](#)
- January 21, Sacramento, CA
 - [Agenda](#)

2014

- December 18, Sacramento CA
 - [Agenda](#)
 - Presentations
 - [California CyanoHAB Network](#) – Johanna Weston, State Water Board
 - [Surface Water Ambient Monitoring Program Cyanotoxin Program](#) – Karen Taberski, San Francisco Bay Regional Water Board

- [Who Are We? California Drinking Water Program](#) – Amy Little, State Water Board
- [Increasing Efficiency and Effectiveness Through Collaboration](#) – Jon Marshack, California Water Quality Monitoring Council

Other CCHAB Presentations

[Western Regional Epidemiology Network](#) – May 21, 2015

[Monitoring and Assessment Partnership Webinar](#) – May 19, 2015

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For More Information

 [Subscribe online to receive updates by email regarding activities of the California Cyanobacteria and Harmful Algal Bloom Network under the General Interests tab.](#)

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Pot grows endanger nature, risk public health

Matthew Renda Staff Writer

September 2, 2013

The proliferation of marijuana grows in Nevada County and the rest of California harms the environment — and in extreme cases, presents a significant health and safety risk to the general public, according to public officials and scientists.

"Our environment is under siege," said Jerry Karnow, president of California's Fish and Game Warden's Association. "Cultivation of marijuana has a direct negative impact upon fish and wildlife, natural landscapes and water quality."

Karnow, who inspects public lands around Nevada County, said he has personally witnessed countless instances where pot growers have illegally diverted streams or built dams to provide water to their plants.

"The degradation of water corridors has a noticeably detrimental impact on fisheries," he said. "It's over the top. It's causing dewatering of certain areas."

Even worse, Karnow said, growers will leave dangerous pesticides and fertilizers near streams and creeks, and in some cases will drain such chemicals into a watershed that provides drinking water to the general public.

"Even if the material is not placed in the water, it's a violation (of the California Department of Fish and Wildlife code)," Karnow said. "The most hazardous violation is the water pollution. There are places I won't go to fish."

Karnow said the biggest and most egregious violations are perpetrated by Mexican cartels who clandestinely establish illegal grows in remote sections of public lands, including the Tahoe National Forest.

"They have no regard for the environment," he said.

However, the degrading environmental practices are not exclusive to illegal grows.

Karnow said that many of the cultivation operations permitted under the 1996 California Proposition 215, which allows the cultivation and use of marijuana for medicinal purposes, are also hurting the environment.

"A lot of the growers portray themselves as environmentally savvy, but the greed just takes over," he said.

The same water quality issues apparent in illegal grows are found in legal operations throughout Nevada County, although typically on a smaller scale, Karnow said.

Animals present another problem, as deer have a deep affinity for marijuana plants and are often shot and sometimes left to rot, he said.

Karnow said he sees diversion of waterways, actual water pollution and poaching on a routine basis, but credits Nevada County District Attorney Cliff Newell for his willingness to prosecute environmental infractions.

"Cliff gets it," Karnow said. "Our department has confidence in that."

Newell said the public is entitled to a pristine environment and violations of DFW code are not to be taken lightly.

"They don't come to this office with a lot of frequency," he said. "But when they do come up, we take it very seriously."

ENDANGERED SPECIES HARMED BY POT INDUSTRY

Marijuana growers employing rat poison to kill animals perceived as pests and to maximize yield are further endangering a declining species, scientists said in a recently published paper.

A recent study spearheaded by University of California, Davis scientist Mourad W. Gabriel concluded the improper use of various industrial grade rodenticides is threatening a potentially endangered species — the fisher.

The fisher is a medium-sized carnivorous mammal classified in the weasel family.

Once pervasive in California forests, the animal is a candidate for protection under the Endangered Species Act.

GABRIEL AND HIS TEAM DEDUCED THAT ILLEGAL MARIJUANA GROWS ARE A LIKELY SOURCE OF THE POISON, BECAUSE THE FISHERS IN THIS STUDY WERE RADIO-TRACKED AND WERE OBSERVED TO AVOID THE RURAL, URBAN OR AGRICULTURAL AREAS WHERE RODENTICIDES ARE OFTEN USED LEGALLY.

"IN MARIJUANA CULTIVATION SITES, REGULATIONS REGARDING PROPER USE OF PESTICIDES ARE COMPLETELY IGNORED AND MULTIPLE COMPOUNDS ARE USED TO TARGET ANY AND ALL THREATS TO THE CROP, INCLUDING COMPOUNDS ILLEGAL IN THE U.S.," SAID DR. KATHRYN PURCELL, WILDLIFE BIOLOGIST WITH THE U.S. FOREST SERVICE AND COAUTHOR OF THE STUDY.

FISHERS ARE NOT THE ONLY ANIMAL THREATENED BY THE INCREASED USAGE OF PESTICIDES, AS IN MANY CASES OFFICERS APPROACHING GROW SITES OBSERVE WILDLIFE EXPOSED TO WHAT OFFICERS REFER TO AS "WILDLIFE BOMBS," DUE TO A POTENTIAL FOR MASS WILDLIFE KILLING, ACCORDING TO AN APRIL 11 PAPER PUBLISHED IN THE WILDLIFE SOCIETY NEWS.

Gabriel recounted an incident where law enforcement officers came upon a mother black bear and her cubs suffering seizures as they slowly succumbed to the effects of pesticides associated with grow operations.

Raccoons, gray foxes and other carnivores are also targeted and often killed by marijuana cultivators, Gabriel writes.

Cutting large swathes of national forest to allow sunlight to filter through the canopy is an increasing problem for the state's public land managers, the paper further asserted.

In 2012, several acres of hardwood-conifer and alder forest were removed from a section of the Hoopa Valley Indian Reservation in Northern California to pave the way for 26,600 marijuana plants, Gabriel writes.

THE MEDITERRANEAN CLIMATE THAT ABETS PRODUCTIVE GROWTH; THE COVER PROVIDED BY THE RELATIVE REMOTENESS OF MANY PORTIONS OF CALIFORNIA'S PUBLIC LANDS AND RELATIVELY PERMISSIVE LAWS MAKE THE GOLDEN STATE AN IDEAL LOCATION FOR MARIJUANA CULTIVATION, KARNOW SAID.

CALIFORNIA IS WIDELY CONSIDERED TO BE THE LEADING PRODUCER OF MARIJUANA IN THE UNITED STATES.

SAFETY OF INSPECTORS

State legislators Dan Logue and Jim Nielsen issued a joint press release earlier this month expressing concerns about the safety of environmental health inspectors who might encounter armed pot growers.

Nielsen, who currently represents Nevada County in the California Assembly, and Logue, who used to, met with representatives from the state water board to discuss safety issues relating to inspectors.

"It is critical that we all work together to help ensure the safety of water officials as they access and inspect marijuana growing operations for possible illegal use of fertilizers, pesticides and other harmful chemicals," Nielsen said.

UC Davis scientists also bemoaned the danger of conducting studies in remote areas of public lands.

"The camps and plantations are often guarded by armed drug traffickers, so concern for the safety of field crews, students, and biologists working on these lands is ever pressing," Gabriel and his coauthors wrote. "Due to heightened safety concerns and emerging patterns like these over the past several years, wildlife crews now are often composed of two individuals, whereas before, biologists worked independently in the field."

Gabriel said increased costs to research entities could decrease the breadth and depth and quantity of research projects that will occur in California.

To contact Staff Writer Matthew Renda, email mrenda@theunion.com (mailto:mrenda@theunion.com) or 530-477-4239.

Indoor grows

While outdoor marijuana cultivation operations present a slew of environmental problems to water quality, forest habitat and wildlife, indoor grows present a unique set of environmental challenges, as well.

A 2011 study by Lawrence Berkeley National Laboratory researcher Evan Mills estimates that indoor cannabis operations account for 1 percent of the United States' total carbon footprint.

"The emergent industry of indoor Cannabis production results in prodigious energy use, costs and greenhouse-gas pollution," Mills writes in the study.

In California, indoor cultivation is responsible for about 3 percent of all electricity use and 9 percent of household use.

From a personal consumer standpoint, Mills said one single marijuana cigarette represents two pounds of carbon-dioxide emissions, equivalent to running a 100-watt light bulb for 25 hours.

Shaft Shifting

Dave Moller

April 27, 2006

When Jason Chellew died, after he and the middle of his home plunged into an apparent old mine shaft recently in nearby Alta, Nevada County residents may have wondered if they were in similar danger.

While the underground Grass Valley and Nevada City area is honeycombed with old hardrock gold mine excavations, they are generally deep and steeply pitched at the surface. What apparently brings real danger is what is truly close to home.

"When you get closer to the surface and the soil is when the problems occur," said Tom Holdrege of Holdrege & Kull Consulting Engineers & Geologists of Nevada City. "Two to three times a year we get calls of suspicious sinkholes, like somebody's driveway caves in."

Holdrege could only remember one home that was threatened by a sinkhole. That was the home of Just Willis on Bet Road outside of Grass Valley off Brunswick Road in 1998. Like the Chellew sinkhole, and the recent landslide on Allison Ranch Road, heavy spring rains probably primed the disasters.

The Union could not locate Willis, but an archived story said he had to abandon the home after a 30-foot wide hole, about 15 to 20 feet deep, opened up right outside his front door and exposed the foundation. At that time, an old miner told The Union the home was built over the original shaft of the Old Brunswick Mine.

"He had unusual circumstances too," Holdrege said. "His septic tank was leaking or leaching right outside his house," and made the ground even more unstable.

It is that kind of situation that causes the Nevada County Building Department to ask for geotechnical reports when people build or put a septic tank in a suspected mining area.

"We don't want to put a \$500,000 home over a hole," said Brian Washko, director of building. "A lot of places have mine shafts, but no one knows where they all are."

Washko said information of old mining activity is supposed to be listed on property documents and divulged prior to transactions. But that does not mean that all old mine shafts, drifts and tunnels information always exists.

"The only guys who know that are gone," said Tim Abraham, a longtime employee at the assessor's office which has no thorough maps of old mining excavations. But he can show you abandoned mine holes like the one he found in the 1960s – just south of Grass Valley – during a family outing.

"It was vertical and I couldn't see the bottom," Washko said.

To find better information, "you'd have to find the original (mine) patents," at the recorder's office, upstairs from his office in the county Rood Center.

Indeed, bound volumes of mine patents, claims and general records are there, according to Sonja Hann, a recorder's assistant. Once there, people can look up old mines by section, township and range, "which can be cross-referenced," she said, to see if one or more are under their property.

What to look for

There are no full-scale maps of mining activity at the Empire Mine State Historic Park, according to Glen Boire who works the front desk. However, there is a model of five square miles of tunnel, shafts and drifts under the Grass Valley area. But again, most of those are very deep, down to almost a mile underground.

"The problem is that some guys would dig a hole 30 feet deep and give up on it without filling it back in," Boire said of Gold Rush-era miners. "They called them coyote holes."

"We call them prospector pits," Holdrege said of the depressions or shafts that his firm closes or fills in for clients every year.

Other signs of mining activity include large piles of mine waste rock on the ground, Holdrege said. They are often referred to as tailing piles, but that infers they have been chemically treated and that is not always the case.

Washko said people can also look for concrete abutments or old building foundations that might have been used by miners.

"If you're walking on a piece of property and you see tailings or holes in the ground, something's going on," Washko said.

Reporting old mines

When people do find abandoned mines, shafts or tunnels, the state of California wants to know about it.

According to Doug Craig, assistant director of the Office of Mine Reclamation in Sacramento, there are 47,000 abandoned mines in California. So far, the Abandoned Mines Unit of the office has located 2,300 of them, partially with the help of the public.

If you suspect you have found one, his office wants you to call 1-877-OLD MINE, or 1-877-653-6463, and tell them.

If it is an old mine and presents a danger to the public, it can be capped off.

If bats are living in it, a cage or special gate can be placed over the top so the species isn't removed from the scene.

Craig said property owners can also find old information about mining at the California Geological Survey Library in Sacramento.

The recent separation of Allison Ranch Road just outside Grass Valley, due to a rain-induced landslide, could be over an old mine site. Although piles of mining waste rock sit around the site, county engineer Doug Farrell said the ground needs to harden more before an investigation is held to determine if an old mine is there.

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To contact senior staff writer Dave Moller, e-mail davem@theunion.com (<mailto:davem@theunion.com>) or call 477-4237.



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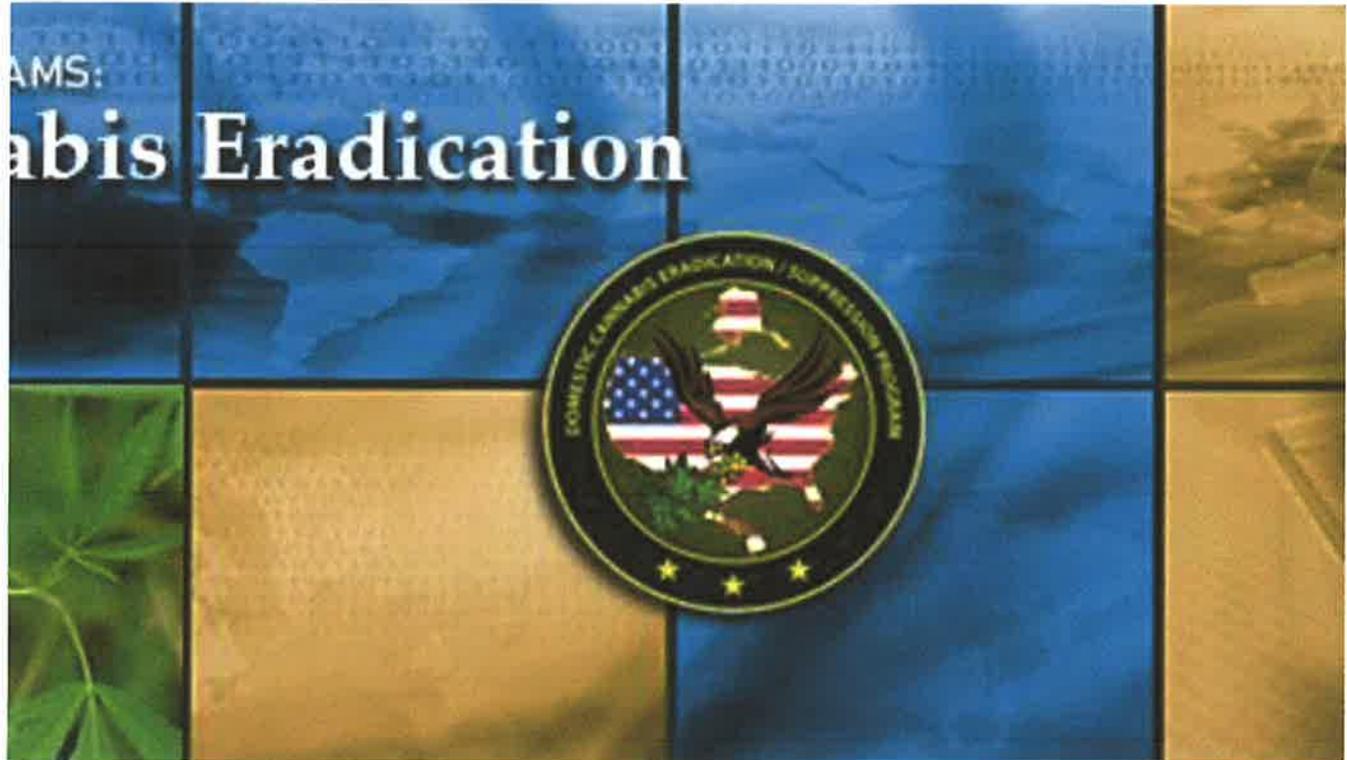
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Cannabis Eradication

Cannabis Eradication

Domestic Cannabis Eradication / Suppression Program

Marijuana is the only major drug of abuse grown within the U.S. borders. The DEA is aggressively striving to halt the spread of cannabis cultivation in the United States. To accomplish this, the DEA initiated the Domestic Cannabis Eradication/Suppression Program (DCE/SP), which is the only nationwide law enforcement program that exclusively targets Drug Trafficking Organizations (DTO) involved in cannabis cultivation.

The DCE/SP began funding eradication programs in Hawaii and California in 1979. The program rapidly expanded to include programs in 25 states by 1982. By 1985, all 50 states were participating in the DCE/SP. In 2015, the DEA continued its nation-wide cannabis eradication efforts, providing resources to support the 128 state and local law enforcement agencies that actively participate in the program. This assistance allows the enhancement of already aggressive eradication enforcement activities throughout the nation. In 2017, the DEA continued its nation-wide cannabis eradication efforts, providing resources to support the 126 state and local law enforcement agencies that actively participate in the program. This assistance allows the enhancement of already aggressive eradication enforcement activities throughout the nation. In 2017, the DCE/SP was responsible for the eradication of 3,078,418 cultivated outdoor cannabis plants and 303,654 indoor plants for a total of 3,382,072 marijuana plants. In addition, the DCE/SP accounted for 4,502 arrests and the seizure in excess of 20.5 million dollars of cultivator assets. The program also removed 2,829 weapons from cannabis cultivators.

The success of the DCE/SP is directly attributed to the decision of the participating agencies to share intelligence, technology and manpower. In many areas of the U.S., cultivators have been forced to abandon large outdoor cannabis plots in favor of smaller, better concealed illicit gardens. Cultivators are also growing outdoor cannabis under the cover of various states legal cannabis grows.

Additionally, cultivators have turned to sophisticated technology to cultivate cannabis plants indoors. The use of hydroponics (growing plants in a nutrient laden solution rather than conventional soil) and other technological advances have enabled cultivators to increase the potency of Tetrahydrocannabinol (THC), the psychoactive ingredient in cannabis plants. Despite cultivator efforts, the DEA and the cooperating DCE/SP agencies continue to identify and eliminate cannabis grow sites throughout the United States. A growing trend is the extraction of THC using various methods such as the Butane method which has seen an increase of grow sites exploding due to this volatile method of extracting THC.



INDOOR CANNABIS GROW



INDOOR CANNABIS GROW





OUTDOOR CANNABIS GROW



OUTDOOR CANNABIS GROW

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SCIENCE

Illegal Pot Farms Are Poisoning California's Forests

Secret growers are taking advantage of the state's remote stretches of public land—and the environmental impact is severe.

JULIAN SMITH AND BIOGRAPHIC MAR 31, 2017



Electric tea lights illuminate the placement of plants in a marijuana farm in Sierra National Forest. (MORGAN HEIM / BIOGRAPHIC)

In the gray half-light of dawn, eight figures creep through the dry pine forest near Quincy, California. Seven of them wear camo uniforms bearing the logos of various government agencies: U.S. Forest Service, National Guard, California Fish & Wildlife, Plumas County Sheriff. Most have blackened faces and assault rifles at the ready. An 11-year-old Belgian Malinois named Phebe and her K9 handler lead the way.

Number eight is tall and dressed in black, with a rumped bush hat and a Springfield Armory 9 millimeter pistol in a hip holster. With a kaffiyeh wrapped under a dark beard, and eyebrows (in his words) “like two caterpillars about to mate,” Dr. Mourad Gabriel could pass as a local interpreter on a Special Forces raid

if this were Iraq or Afghanistan. Instead, he's a wildlife biologist accompanying law-enforcement agents on an illegal marijuana farm bust.

The group traverses hillsides, fords streams, tiptoes through thickets of fern and willow, trying not to snap twigs or shake saplings. Radios crackle with whispers. Tiptoeing through rough terrain is slow going: It takes almost four hours to go three miles.

At last the goal is in sight: a dense garden of pot plants on a steep slope above Palmetto Creek. The dog team and two others move in while the rest, including Gabriel, hold tight down by the creek. Growers are often armed, and if there are any around, they could make a break for it. Runners usually head downhill.

Word comes back: Nobody's home. The whole team can enter safely. It's time for Gabriel to go to work.



Dr. Mourad Gabriel (left) pauses to listen for signs of movement as he and the team of law-enforcement officers moves toward an illegal trespass grow.
(Morgan Heim / bioGraphic)

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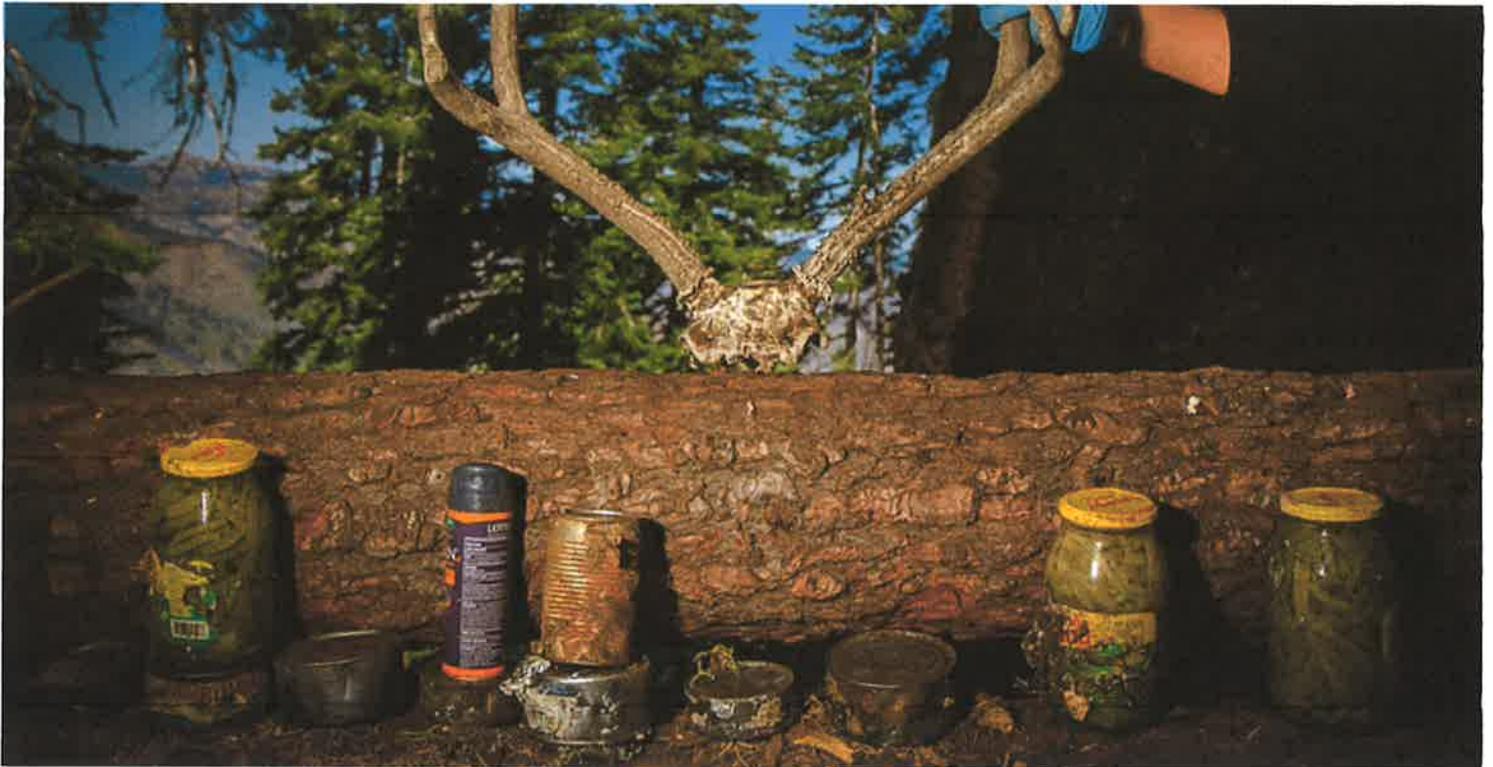
A combination of ideal growing weather and proximity to tens of millions of potential customers has always made northern California a great place to grow dope. California was the first to permit medical marijuana, in 1996, and this past November, residents voted “yes” on Proposition 64, making California the fifth state to legalize recreational pot. Almost two-thirds of the country’s total legal harvest comes from the Golden State. The crop brought in \$2.8 billion in 2015, putting it somewhere between lettuce and grapes, and some estimates project the state’s “green gold rush” could become a \$6.5 billion market by 2020.

Even as California embraces the booming legal marijuana market, though, it is also seeing an explosion in illegal cultivation, much of it on the state’s vast and remote stretches of public land. National forests and even national parks have seen a surge in large-scale illegal “trespass grows,” some with tens of thousands of plants spread across dozens of acres. As much as 80 percent of illegal pot eradicated in California is grown on federal lands, and that’s just the fraction that authorities find. (Trespass grows occur in other states in the American West, and even in remote areas back east, but at nowhere near the scale of California.)

The surge has overwhelmed land-management and law-enforcement agencies, whose resources are already stretched thin. Here in the Plumas National Forest, for instance, three USFS officers have to cover some 4,600 square kilometers (1,790 square miles). That’s why so many different agencies are cooperating on this raid.

As the executive director of the non-profit Integral Ecology Research Center (IERC), Gabriel’s usual purview is studying ecosystems and their inhabitants, from big cats to endangered invertebrates. He never expected to find himself packing heat and creeping through the forest, let alone facing other threats to his and his family’s safety. But he has taken up the challenge because of illegal pot growing’s insidious side effects: The lethal poisons growers use to protect their crops and campsites from pests are annihilating wildlife, polluting pristine public lands, and maybe even turning up in your next bong hit.





An assortment of food and medicines found at an encampment at a large grow in Plumas National Forest (Morgan Heim / bioGraphic)

* * *

Up on the hillside, bright green plants sprout from shallow holes gouged into the slope. Some plants are more than 2.5 meters (eight feet) tall—a sativa strain, known for its energizing highs—while others are shorter, with the darker leaves of mellower indica. A tangled web of plastic irrigation lines feed every hole. It smells like you'd expect a pot garden to smell as it bakes in the sun: herbal and musky and medicinal all at once.

As soon as they arrive, officers begin chopping down the plants with machetes and garden pruners. Gabriel pulls on blue nitrile gloves, plucks a pot leaf and sticks it into a small plastic bag to test for pesticide residue. Then he kneels to examine a Gatorade bottle lying on the ground. Growers often use empty containers like this to store toxic chemicals. In the previous year, every Gatorade bottle Gabriel and his team found at grow sites tested positive for carbofuran, a neurotoxic insecticide that is so nasty it has been banned in the U.S., Canada and the EU. Farmers in Kenya have used it to kill lions. Symptoms of exposure range from nausea and blurred vision to convulsions, spontaneous abortions, and death. “They just leave these sitting around,” Gabriel says as he carefully swabs the bottle.

In 2009, Gabriel was studying Pacific fishers (*Pekania pennanti*), cat-sized carnivores that live in old-growth forests in the Rockies and Sierra Nevadas. Fishers look cute and cuddly, but they're the only animals that regularly kill and eat porcupines (*Erethizon dorsatum*). Small, isolated populations live in Washington, Oregon, and California. (Just last year, despite the numerous threats fishers face, including logging and wildfires, the U.S. Fish & Wildlife Service decided against granting the animals federal protection under the Endangered Species Act.)

There are fewer than 500 fishers left in the mountains of northern California. So when Gabriel performed a necropsy on one individual in 2009 and found its body cavity filled with blood from some kind of hemorrhagic response, red flags went up. Tests showed the animal was full of an acute rodenticide (AR) so toxic it is not sold legally in the U.S. (Acute or second-generation rodenticides are exceptionally lethal, designed to kill in a single dose.) As more poisoned fishers turned up, Gabriel and other biologists were baffled. Radio collar data showed the animals hadn't gone near farms. Where were the poisons coming from?

Gabriel started reporting his findings at scientific conferences, in part to see if anyone could help figure out what was going on. At one of these, a conservation officer approached him afterward and offered an explanation: illegal marijuana grow sites, where the officer would often see containers of rodenticides and other chemicals.

Suddenly the puzzle made sense. Gabriel and his colleagues tested 58 fisher carcasses they had collected over the previous three years and found that more than 80 percent had rodenticide in their systems. It even showed up in nursing kits, meaning the mothers passed it through their milk. Some animals tested positive for four separate toxic compounds. Since then the numbers have only risen. In 2016, the scientists tested 22 radio-collared fishers that had apparently died of natural causes; every one had some kind of synthetic poison in its system.

Some 50 different toxicants have turned up at grow sites. ("Toxicants" are manmade poisons, while "toxins" are naturally occurring.) Growers use the poisons to keep rodents and other animals from eating the sugar-rich sprouting plants, from gnawing on irrigation tubing, and from invading their campsites in search of food. Acute rodenticides cause neurological damage and internal bleeding. Animals literally drown in their own blood or stumble around until

they're eaten themselves, passing the poison up the food chain to predators like owls and fishers.

Growers bait open tuna cans with pesticides, which are often flavored like meat or peanut butter, or string up poisoned hot dogs on fishhooks. People have found bears, foxes, vultures, and deer with chemicals from grow sites in their bodies. One study of barred owls (*Strix varia*) in the Pacific Northwest found that 80 percent of the birds tested positive. And for every animal found, there are probably dozens more in a similar condition.

"It's a massive problem," says Craig Thompson, a wildlife ecologist with the U.S. Forest Service. "People don't tend to grasp the industrial scale of what's going on. There are thousands of these sites in places the public thinks are pristine, with obscene amounts of chemicals at each one. Each one is a little environmental disaster." Thompson also studies fishers in the Sierras, and he is one of the few scientists besides Gabriel who studies the problem firsthand. "I can stand at the intersection of two forest roads and generally know of three or four pot gardens within a quarter or half a mile."

Gabriel and Thompson fear the poisons could spread far beyond each grow site and contaminate the water supply of towns and cities far downstream. The toxicants can leach into the soil and linger for years. Using water monitors, Gabriel has already found organophosphates—nerve agents used to make insecticides and certain types of chemical weapons—several hundred meters downhill from grow sites. "We know it's happening, we just don't know the extent, and we don't know what other chemicals are involved," he says.

* * *

"I think they were out of here already, maybe to resupply," says Chris Hendrickson, a detective with the Plumas County Sheriff's Office who coordinated the raid. Hendrickson is soft-spoken, with glasses and a light mustache. He's sifting through the mess of the growers' campsite, a dirt platform under a camouflage tarp just beyond the last plot. It contains everything a few people would need to live for months: sleeping bags, cots, a propane stove, bug spray, cartons of eggs and bags of rice, potatoes, and sugar. Many of the food labels are in Spanish; a jar of pickled nopales—prickly pear cactus pads—sits near a pile of dirty clothes and a solar cell phone charger.

Hendrickson estimates he has gone on about 50 raids in his nine years as an investigator. This one is typical, he says: probably two guys tending the plots for anywhere from two-to-four months, with occasional food drops and extra help during planting and harvest.

It takes about an hour for the team to chop down or uproot all 5,257 plants. While wholesale prices for illegal pot have fallen by half over the past decade, even at the current rate of around \$1,500 per pound, at a rough estimate of a pound per plant, that's almost \$8 million lying in the dirt. Someone's going to be severely disappointed when they come to check the crop. "These guys will be coming back," Hendrickson says. "It would be interesting to be a fly on the wall when they see what has happened."



Law-enforcement officers move quickly through a grow site dubbed the "Palmetto Grow." Since the plants have not yet gone to bud, the team will leave them to wither and dry in the sun.
(Morgan Heim / bioGraphic)

Pot from illegal sites like this one can end up anywhere. "These guys aren't growing for the legal recreational market or medical dispensaries—they're growing to

exploit a black market somewhere,” says Mark Higley, a wildlife biologist with the Hoopa Tribe in Humboldt County, whose reservation has seen an explosion in illegal grow sites. While there is no proof that illegal pot ends up in the burgeoning legal market, many familiar with the industry suspect it does.

Law enforcement officials think many trespass grows are set up by Mexican drug cartels, which prefer to ship marijuana from state to state rather than smuggle it over the international border. Growers arrested during raids are often undocumented immigrants in their 20s from Michoacan, experienced in covert agriculture and hard living. They earn around \$150 a day for two-to-four months, much more than they would at a farm or winery.

Captured growers sometimes claim their employers are holding their families hostage until the harvest is collected. Whether or not that’s true, they’re motivated to protect the crop. Hendrickson estimates between a quarter and half of raids turn up some kind of weapon, from crossbows to automatic rifles. He has found elevated sniper positions set up near grow sites.

Growers have followed, detained, threatened, pursued, and shot at officers and civilians, including scientists and field techs. One Forest Service biologist who stumbled upon a grow site in Sequoia National Forest was chased for close to an hour by armed growers. When he briefly lost radio contact, his supervisors feared he had been captured or was dead, but he made it out safely. In a single week in the summer of 2016, two K9 dogs were stabbed while apprehending suspects at trespass grows. (Both survived and have returned to work.)

“I’m worried about my family going hiking and running across one of these, or my friends,” Hendrickson says. Gabriel looks up from counting empty bags of fertilizer. “I’ve hiked and snowmobiled through this drainage,” he says. “We’ve done spotted owl surveys here, too. There’s a nest right over there.”

Pesticides have been the biggest recent game-changer for law enforcement, Hendrickson says. The possibility of coming into contact with a neurotoxin sprayed on a plant or hidden in a Coffee-mate jar makes raids even more dangerous, not to mention slower. “We still make sure a garden is safe when we go in, but now it takes a lot longer to assess if there are dangerous chemicals or not. Safety-wise, it’s huge for us.”

Just walking through rows of plants coated with toxic chemicals can be enough to bring on symptoms like lethargy and headaches—let alone spending hours cutting them down in the hot sun under the wash of a helicopter. Gabriel and his employees have started getting monthly blood tests to check for pesticide exposure.

Some chemical threats are more immediate. At one site Gabriel was inspecting an unfamiliar container full of aluminum phosphide, a poisonous powder used to kill rodents and insects. It had gasified and built up pressure in the heat of the sun. When he touched it, it exploded in his face. Luckily he was wearing a hazmat respirator.

“My biggest fear is that some kid will come across one of those bottles,” Thompson says. “Carbofuran is pink, it looks like Pepto, like candy. Can you imagine what a five-year-old would do with that?”

As the last of the plants at Palmetto are cut down, Gabriel totals up his findings: 3.6 kilograms (8 pounds) of bromodialone, a restricted-use neurotoxic rodenticide, and two bottles of malathion, an organophosphate insecticide that’s basically a watered-down version of the nerve agent sarin. Each bottle is enough to make 1,900 liters (500 gallons) when mixed with water. All of it has to be left behind, at least for now, since moving it would require hazmat protocols and more time and money than anyone has at the moment.

Gabriel’s expertise in wildlife toxicology has become a huge asset to law enforcement, both in terms of keeping officers safe and gathering evidence for prosecution, says Forest Service patrol commander Chad Krogstad. “He’s helping us out tremendously, giving us environmental background data and even testifying in some of our cases.” But the work comes at a cost.

* * *

That evening in a tiny pizzeria in nearby Greenville, the stress of the morning’s efforts shows in Gabriel’s face and posture. Usually he’s fizzing with energy, peppering conversations with “Dude!” and going off on endearingly geeky tangents about chemistry or animal behavior like a kid talking Minecraft. Now he’s glancing at the clock, wondering where dinner is. Three simultaneous orders have overwhelmed the kitchen.

“I never thought that studying wildlife diseases would land me in the middle of the drug war,” he says. “But you can’t just stand by and do nothing.” He’s quick to emphasize that his role is strictly that of an objective observer. He’s not advocating or making arrests; he’s a scientist, collecting and analyzing data and reporting his results—even though that entails going on raids and packing heat, and in the end, seeing his efforts help put people in jail.

“I gave up being objective about this a long time ago,” Thompson says. “I think it was the day I looked at a map and saw a grow site maybe 100 yards upstream of a place I’ve taken my kids to play in the water and fish. That makes it a personal issue.”

It’s an unusual position to be in for a scientist trained in dispassionate data collection and objectivity above all, and one that’s often uncomfortable as well as dangerous. Gabriel’s many published papers and presentations on the topic of pot poisons have raised his public profile significantly. In the heart of drug country, that’s not a good kind of notoriety.

Growing marijuana has been a way of life in northern California for decades. Even though more and more is being grown legally, Gabriel’s inadvertent role as “the scientist who helps cops raid pot farms” has—in some eyes—brought unwelcome attention. In Eugene, near where he lives, strangers at the supermarket and gas station have invited him to go fuck himself. Grower websites have posted the latitude and longitude coordinates of his home, and his office has been burglarized. From the pattern of door and room alarms that were triggered, it looked like the intruder headed straight for his desk. “That means someone was probably watching where I sit,” he says.

The worst fallout came one evening in February 2014. Gabriel and his wife Greta Wengart, who was pregnant at the time, called their two dogs in from the backyard. Nyxo, a 100-pound black lab mix, had been barking at something across the fence. He was a gentle giant they had adopted from a local shelter ten years before, after he had been shot at, tossed from a truck, and left for dead. Nyxo seemed sluggish as he went to sleep. In the middle of the night they heard him throwing up.

Early the next morning Nyxo started drooling and collapsed. Gabriel rushed him to the vet, but the dog slipped into a coma. That afternoon he had to be put down. Mourad helped with the necropsy—“one of the hardest things I’ve ever had to do.”

He found Nyxo had been poisoned with brodifacoum, an anticoagulant rodenticide. A reward of \$20,000 still has not brought in a single lead. Gabriel and Wengart's daughter was born two weeks later.

Since then Gabriel has surrounded his house with high-def cameras and motion-sensor lights. He has learned to live with one eye over his shoulder, always scanning for suspicious cars or strangers. "I'm not being ignorant," he says. "I have to be perceptive, for my family's sake."

Wengart is also a biologist, and serves as the IERC's assistant director. She and Gabriel work closely on grow sites and other projects. "I worry about him less than I used to," she says. "When he's doing ground entry, that's the only time I get nervous." But that's the only way to get certain kinds of information, by questioning captured growers, and the only way to make sure no one on the entry team stumbles upon anything toxic. The couple started out working together on busts, but now they try to take turns. Not being in the same place at the same time is both safer and more efficient. "It's definitely a conscious choice," she says.

"I think we're all worried a little about Mourad," says Higley, who often delivers public presentations along with Gabriel. "I wish he would keep a lower profile." Higley himself has documented dozens of trespass grow sites on the Hoopa reservation, including one last year, the first, with a cache of carbofuran.

In his defense, Gabriel says legal growers have thanked him in person for drawing attention to the issue of illegal pot grows—not just because of the threat they pose to their profits, but also because the environmental and health risks could tarnish the industry's overall image.

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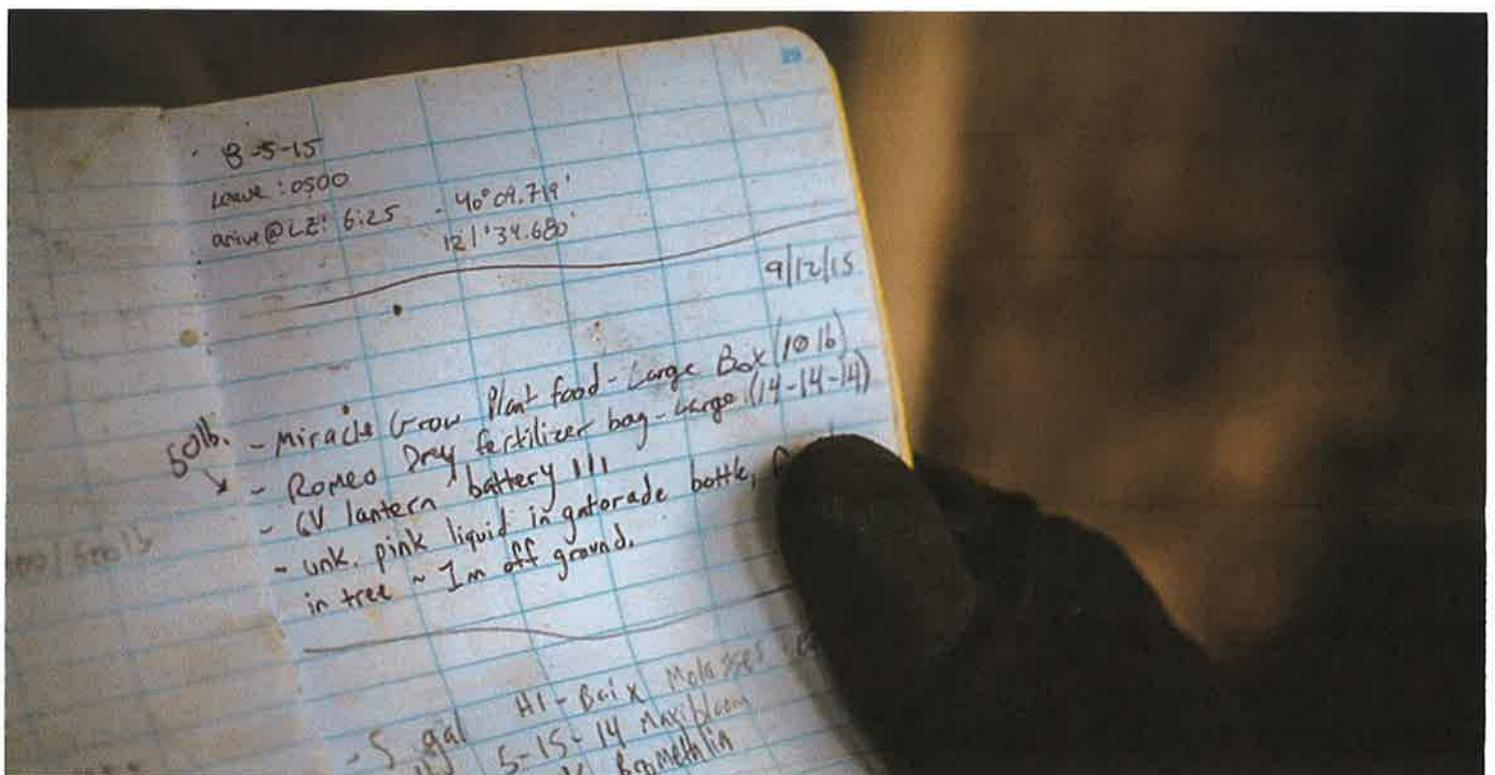
Early the next morning, Gabriel and five field techs from IERC park along a dirt road in the hills northwest of Quincy. The brushy slopes bristle with blackened tree trunks, remnants of a forest fire years earlier. The team is here to survey a grow site nicknamed Rattlesnake that was busted in 2015. Henderson is along for security, as is a burly National Guardsman from a specialized unit trained in chemical, biological, radiological and nuclear threats. The Guardsman doesn't want his name used, and later pulls on a balaclava for a group photo. "Mourad's a badass," he says. "He's smarter than all of us, and he's a goat on the trails."

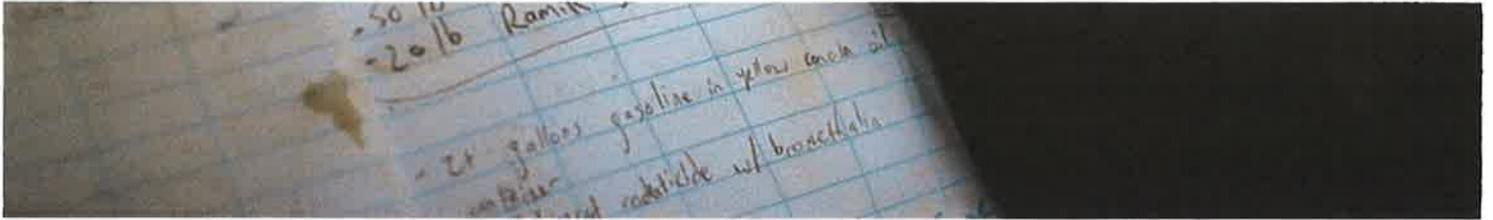
Gabriel goes over security protocols as everyone gears up and tests radios. “No wallets, no cell phones, nothing identifiable.” The chance of dropping something that could lead someone unpleasant to your front door, while tiny, just isn’t worth it. “If you run into a grower, remember: Turn your mic on, and the safety code word is ‘hammerhead.’” He shoulders his backpack and checks his pistol.

“Everyone have their mace?”

Personal safety has become a primary concern for anyone doing field work on public land in California, Thompson says. “It’s an entirely different paradigm than five or ten years ago. It pervades every aspect of the job.” It’s too dangerous to send anyone out alone, which means having to pay two people to do a job one could do. Law enforcement regularly declares scientific study areas off limits because of safety concerns.

“My techs are going in with guys with M-16s to recover dead animals, and that’s just to do our normal wildlife job,” Thompson says. Techs are taught to identify signs of illegal grow sites, such as trash, new trails, and sneaker prints in places where people generally don’t wear Nikes. They also learn how to appear as nonthreatening as possible in the field: no camo clothing, scientific equipment in full view. “I have to talk about it in job interviews now when I hire people,” Thompson says. “It used to be the risks were bears, snakes, driving mountain roads. Now it’s pot gardens.” It’s enough to scare away applicants, he says.





A researcher's notebook lists the chemicals left behind at a grow site.
(Morgan Heim / bioGraphic)

With all this in mind, Gabriel and Henderson lead the group up the hillside in the open sun. The field techs, two women and three men in their 20s, are clearly inspired by their boss's enthusiasm. "This is real-world applied biology," says Alex Reyer, climbing over a crumbling log. "I feel like I'm actually having some sort of impact for the better."

Topping a bare ridge reveals Mt. Lassen's snowy peak just above the horizon. On the other side of the ridge, a wide basin spills to the northwest. Somewhere down there, amid the dense wild lilac bushes and blackened 60-meter (200-foot) snags, is the grow site. Gabriel was on the bust, which netted 16,455 plants growing across 300 vertical meters (1,000 feet). One suspect was captured and another escaped by fleeing down the valley, evading two K9 dogs.

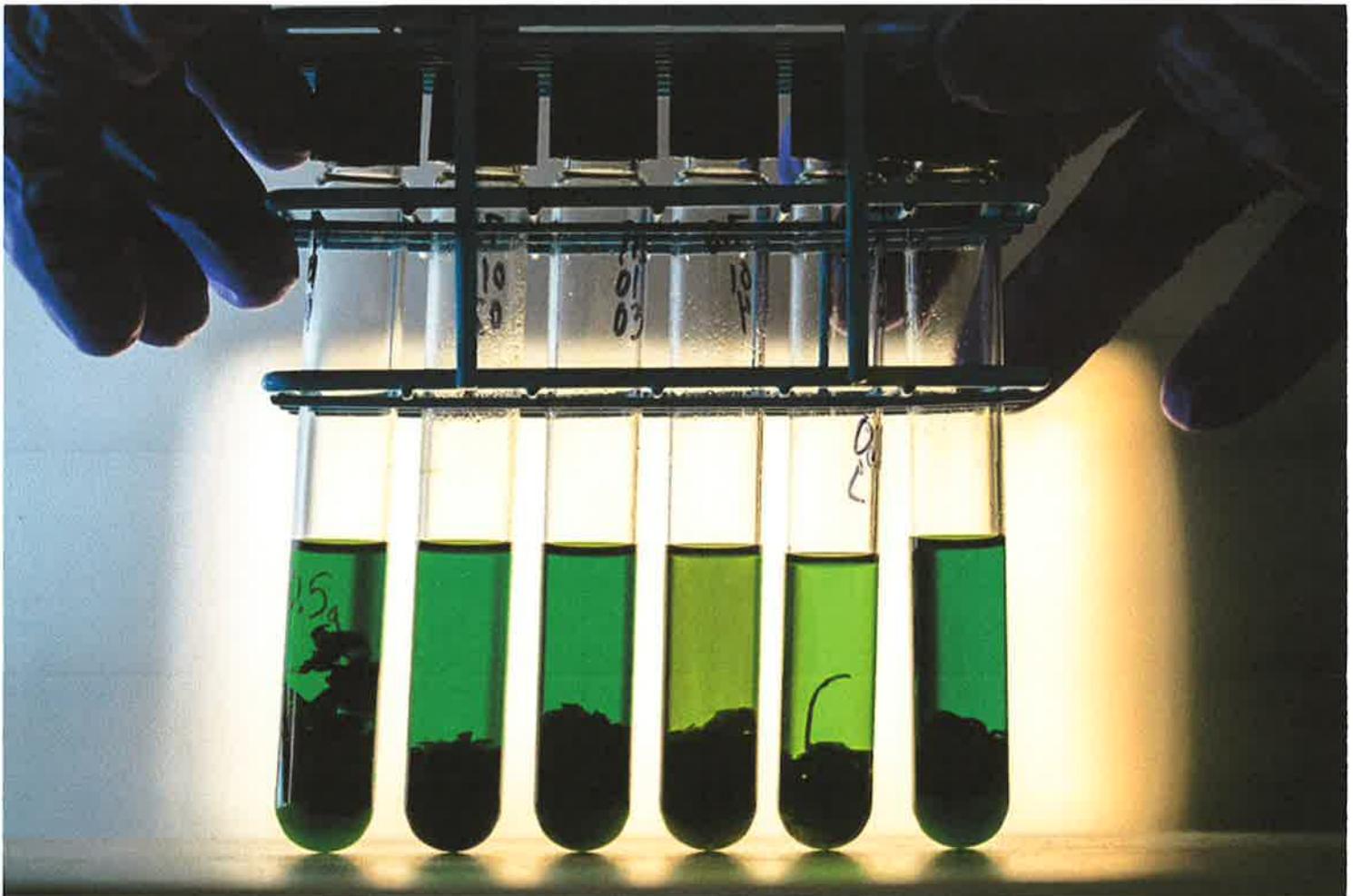
Today the team wants to catalog the environmental damage caused by two large campsites, to help plan a cleanup effort. Step one is finding the three plots, but in the past year, the vegetation has grown more than two meters (six feet). It's so dense that soon none of the team members can see anyone else. Drifting pollen fills mouths with a bitter taste.

It takes half an hour of sweaty bushwhacking to find the first piece of water tubing. Gabriel turns on a satellite tracker to map the plot, pulls on nitrile gloves, and starts digging through a trash pile inside a burned-out stump. He pulls out a propane canister, red Solo cups used to transport seedlings, a filthy pair of underwear. He counts empty bags and containers out loud: "Twenty pounds of 6-4-6 fertilizer, 50 pounds of 0-50-30, one pound of unknown white powdery substance in a Gatorade bottle."

The irrigation lines lead along what were once rows of thriving plants, now barely visible indentations in the ground. A few still hold dead plants, their buds dry and mildewed. Someone calls in a dead bird on the radio. "Take a swab inside the mouth," Gabriel replies. "Grab liver or kidneys if you can."

Suddenly he pulls up short. It's a single marijuana plant, small but definitely alive. "No way!" Just as quickly, excitement turns to concern. Growers often return and replant a raided site if all the irrigation line is left in place, like here. Could someone be here right now? But the plant has a taproot, which means it wasn't planted by hand. Somehow it sprouted from a leftover seed, survived a winter buried in snow, and got itself pollinated. "Amazing. I've never seen that." Gabriel shakes his head and takes a leaf sample to test for contaminants.

As it turns out, survival isn't the only thing exceptional about the plant. Its leaves test positive for carbofuran, most likely from the soil, meaning the chemical persisted much longer than anyone suspected it could. According to official estimates, the chemical should have been gone from the soil within a month. "It's completely new data nobody would have ever conjured up," Gabriel says.



Samples of marijuana collected from trespass grows are tested at a UC Davis toxicology lab to identify chemicals used in their cultivation.

(Morgan Heim / bioGraphic)

Pesticides are showing up on both leaves and buds at trespass grows, Gabriel says, and they appear at detectable levels when the plant is smoked. If any of this harvest makes its way to a medical dispensary, it could end up in the lungs of people who are already immuno-compromised from AIDS or cancer. There hasn't been any formal research in California yet, but studies and investigations in Colorado and Oregon have found pesticides on marijuana in legal dispensaries, including in products that were supposedly certified pesticide-free. Last year, the Emerald Cup, a major cannabis competition in Sonoma County that focuses on organic growing, started testing entries for pesticides. About a quarter of the concentrates and more than 5 percent of flowers were disqualified.

Higher up the hillside, at the edge of the burn scar, is what looks like a sprawling homeless encampment in the trees. Folding camp chairs, a pile of sneakers, and at least 20 cans of athlete's foot spray are scattered around a dirt sleeping platform reinforced with logs. Four rolls of unused irrigation pipe as big as truck tires lie near a deep drift of food cans that smells like death. Each roll is a thousand feet long and retails for \$250. "All of this was trucked in on someone's back," Gabriel says. "This is not done on a whim. This takes organization and capital."

Just below the campsite are three natural springs, or at least what's left of them. When Gabriel was doing owl surveys here ten years ago, the trickling springs fed a thriving wetland of willows and alders. To give the pot plants a reliable, controllable source of water, the growers dug out the springs into pools the size of hot tubs, covered with sticks and tarps to hide them from the air. As a result, the wetland is virtually gone.

In a controlled setting, a marijuana plant uses about six gallons of water per day, which over a 150-day growing season comes out to 3,400 liters (900 gallons) of water per plant. Legal growers have found their once-unrestricted water use under increased scrutiny as the state confronted extreme drought conditions. (Some grows in Humboldt County have literally sucked creeks dry, leaving salmon and steelhead to flop and die in puddles.)

Under a law passed last June, growers now have to secure official water rights to get a growing permit.



Growers typically camp in close proximity to the fields that they manage. These camps contain months' worth of supplies. (Morgan Heim / bioGraphic)

Illegal grows, of course, are another story. Gabriel has estimated that trespass grows use 50 percent more water because of less efficient irrigation systems and added stressors like pests, pathogens, and drier weather at higher elevations. Worse, some trespass growers leave their irrigation systems running around the clock throughout the year, even when nothing is growing. Multiply that by hundreds of thousands of plants and you have a serious water problem. One study by the California Department of Fish and Wildlife estimated that trespass marijuana grows used about 300 million gallons of water per square mile, roughly the same as almond orchards.

To put things into perspective, by Gabriel's estimates the 1.1 million illegal pot plants removed in California in 2016 would have used somewhere around 1.3 *billion* gallons of water—as much as 10,000 average California households do in a year. He calculates that this Rattlesnake site alone could have used enough water in a single season to fill seven Olympic pools.

Near one of the springs, an empty jar of ibuprofen lies on the ground. This is where the one grower was caught: Fleeing a K9 dog, he took a bad jump and broke his leg.

“I gave him some pills—he appreciated that,” Gabriel says. Not all of Gabriel’s interactions with growers are so friendly: He once had to help tackle a grower who had thrown off a law enforcement officer twice his size.

To keep growers from returning and replanting the site, it will have to be remediated, returned to something like it was before it was planted. By Gabriel’s calculations that would mean removing around 6,000 meters (20,000 feet) of irrigation tubing and hauling out all the trash in 50-gallon bags, probably 40 or 50 in all. The springs will have to be rebuilt to function naturally, an expensive and lengthy process. This site is close enough to a road that all the crap can be hauled out on foot; more remote sites require helicopters.

Remediation requires money and manpower, both of which are scarce to nonexistent—just as they are on the law enforcement end. Out of the roughly 80 grow sites Gabriel and his team have investigated since 2014, they have been able to remediate just 29 so far. “We’d like to get that to a hundred percent, but there’s just no money for it,” he says. “Right now it’s all soft money, grants through our NGO, volunteers helping. I’m on the cusp of putting up a GoFundMe site. Next I’ll try selling cookies.”

He nudges a grimy digital scale with his boot. “How do you clean up hundreds of sites?” he says, with an edge of bitterness in his voice. “That’s a lot of bake sales.”

* * *

The biggest trespass grow sites are broken up into dozens of smaller subplots, making it less likely every plot will be busted—and also spreading out the environmental impact. “It used to be a single gaping wound, like a bullet hole,” Gabriel says. “Now it’s a shotgun.”

Last September, the IERC team surveyed two grow complexes in Lassen National Forest. Together they covered 2.6 square kilometers (one square mile), the largest site the team has ever seen. There were 30 camps in all, each with its own cache of rodenticide, and more than 65 kilometers (40 miles) of irrigation tubing that sucked up 269,000 liters (71,000 gallons) of spring water a day.

They also found the carcasses of a bear (*Ursus americanus*) and a gray fox (*Urocyon cinereoargenteus*). Test results are still pending, but they’re reasonably sure the fox, at least, is full of poison. Right next to it was the carcass of a turkey vulture

(*Cathartes aura*); by all appearances, it took a bite or two and dropped dead. As he was taking samples, Gabriel watched flies land on the fox and die within seconds. “That night was the longest shower I ever took,” he says.

Twenty years after giving the thumbs up to medicinal marijuana, Californians voted in November to allow anyone over 21 to buy pot legally. By some estimates, Proposition 64 could double the state marijuana market to \$6.6 billion by 2020. But as long as the plant is still illegal in other states, the demand that fuels trespass grows will continue.

* * *

Gabriel knows he’s fighting the good fight. He also knows he can’t keep going like this forever. Almost all his working hours are eaten up by “drug stuff” now. The raids, the long field days of surveys and remediation, the endless presentations and interviews: It’s rewarding—but draining, too.

He’d like to train other researchers and law enforcement officers to identify and remove chemical threats at grow sites. If enough people learn to do what he does, then he can step aside and become just another researcher again. “But if I stopped right now, it would be gone,” he says.

The idea of moving away comes up a lot at dinner, he says. The legal-growing boom is making Humboldt County a crazy place: Real estate is through the roof, and the murder rate just hit an all-time high. Gabriel’s mother is from Michoacan, and a lot of what he’s seeing in California is starting to sound like the stories he hears from south of the border. “I worry about raising a family here,” he says. “You do it for your kid, but you have to be there for your kid.”

The legal and illegal marijuana markets are different beasts, with different suppliers and customers, but in the end it’s all about growing the same plant. Even as the industry as a whole goes more mainstream, the ever-changing jumble of law and jurisdiction between different states and the federal government will encourage entrepreneurs and criminals to take advantage of blind spots and blurred lines.

As far as Gabriel and many others are concerned, only a uniform national marijuana policy could potentially resolve the issue. But if President Trump’s cabinet nominations are any indication, we may instead be in for a revival of the

old-school drug war that President Obama let languish. Many of Trump's cabinet picks, including Jeff Sessions as Attorney General and Scott Pruitt to head the Environmental Protection Agency, have opposed marijuana reform or legalization in various ways during their careers. Even more ominously, a bill introduced in the House in January proposes to completely eliminate the law enforcement functions of the Forest Service and Bureau of Land Management and turn those duties over to the states. And some members of Congress have been pushing to entirely defund the Drug Enforcement Administration's marijuana eradication program, whose budget has already dropped from \$18 million to \$14 million. California received more than a third of the funds in 2015.

As long as pot is still illegal in some parts of the U.S., the demand for illegally grown marijuana will persist. And as long as there are places where it's cheaper and less risky to grow it, that is where it will happen. In the meantime, wildlife and the environment—and likely pot smokers themselves—will pay a price we're only beginning to understand.

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Hengl, Tasha

From: Sietske Rauwendaal <sietske@rauwendaal.com>
Sent: Monday, August 20, 2018 3:11 PM
To: Planning
Subject: Cannabis grows on RA parcels
Attachments: Marijuana.pdf

To the planning commission,

I want to express my opposition to cannabis grows on RA parcels. Here in LOP ranchos most parcels are only 5 acres. Many of us are on wells. Grows take a lot of water. In addition most small growers do not realize the cost of becoming legal and as I have written before. Small grows will not be able to bear the cost as the cost is coming down. I will attach my previous email plus 2 articles of additional articles. By now my nephew tells me that the tobacco companies are looking at growing marijuana as well as the bigger grows, who are paying the fees are reporting the smaller illegal grows, causing discourse. Please consider not only the residents but the small grower who will not benefit from the legalization as they will be put out of business by the larger grows.

Kind regards,

Sietske Rauwendaal, VP & Event Manager
Rauwendaal Extrusion Engineering, Inc.
10556 Combie Rd, PMB 6677, Auburn, CA 95602
530-269-1082
www.rauwendaal.com



SOUTH YUBA RIVER CITIZENS LEAGUE

September 10, 2018

Brian Foss, Planning Director
Planning Department
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
planning@co.nevada.ca.us

Re: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

Dear Mr. Foss:

The South Yuba River Citizens League (SYRCL) respectfully submits comments and recommendations for the initial scoping process in response to the Notice of Preparation by Nevada County (County) Cannabis Ordinance Environmental review process as required by the California Environmental Quality Act (CEQA). We request that these comments be received regarding the substance and process of the environmental review process, the actual implementation of the cannabis ordinance (ordinance), and the scope of the resulting Draft Environmental Impact Report (DEIR) document as compliant with CEQA.

We were pleased to provide public comment at the August 22, 2018 scoping meeting. A written copy of our oral statement, as requested, is also provided along with these written comments.

For summary, the main points of the comments are as follows:

- a) General Draft Ordinance Concerns
- b) Water Quality Impacts
- c) Hydrology Impacts
- d) Forest Impacts
- e) Wildlife and Listed Species Impacts
- f) Energy Use and Conservation
- g) Proposed Project Alternatives

In this comment letter, we provide comments on the ordinance itself, the baseline for determination of environmental impacts from cannabis cultivation in the unincorporated areas of Nevada County, and the scope of the DEIR.

Introduction

SYRCL was founded in 1983 by grassroots activists determined to protect the South Yuba River from dams. Ultimately, SYRCL won permanent protections for 39 miles of the South Yuba River under California's Wild and Scenic Rivers Act. Today, SYRCL is the central hub of community activism to protect, restore, and celebrate the Yuba River watershed. With 35 years of achievements, 3,500 members and 1,300 active volunteers, SYRCL is doing great things for the Yuba watershed. Some of our work includes restoring wild salmon populations, meadow restoration, and inspiring activism across the globe with our environmental film festival.

SYRCL's vision is that well-regulated agriculture should not harm water quality, fish or wildlife. Inspired by that vision, SYRCL started the "Growing Green for the Yuba" (Growing Green) program in 2015. Through Growing Green, SYRCL staff and community partners have hosted a series of public workshops that have reached nearly 500 people in this community. The workshops feature a variety of best management practices for the Yuba River watershed, regulatory updates, and issue-specific panels on environmental concerns such as forest management, water use and conservation, water catchment and healthy soil.¹ Most recently SYRCL received funding from the Central Valley Water Quality Control Board and partnered with the Nevada County Cannabis Alliance (NCCA) to produce videos featuring local farmers and best management techniques for soil management and water conservation.²

While we acknowledge that SYRCL was not able to publicly participate or provide comment during the ordinance drafting process, we are now participating at this important juncture and look forward to contributing to this community effort. SYRCL encourages Kimley-Horn Consultants and the County to use the Growing Green resources during this environmental review process, and welcome additional consultation.

The negative environmental impacts of cannabis cultivation range from water diversions, water pollution, the poisoning of wildlife, litter, vegetation removal, and erosion issues.³ In California, the environmental impacts of cannabis cultivation have been further exacerbated by drought conditions, compounding the impact of less water and higher temperatures for already vulnerable species and ecosystems. While only a limited number of scientific studies have been produced, there are hundreds of news articles on the topic, many of them highlighting the impacts to water and wildlife. It is estimated that the water demand to grow cannabis from both illegal and legal grow operations exceeds the amount of available surface water in many watersheds.⁴ Each of the important environmental issues are explored in more detail in the comments.

¹ Video recordings of those public workshops are available on SYRCL's website.

² Those videos are available on SYRCL's website as well as the NCCA website.

³ Carah, Jennifer, Jeanette Howard, Sally Thompson, Anne Gianotti, Scott Bauer, Stephanie Carlson, David Dralle, Mourad Gabriel, Lisa Hulette, Brian Johnson, Curtis Knight, Sarah Kupferberg, Stefanie Martin, Rosamond Naylor, and May Power, "High Time for Conservation: Adding the Environment to the Debate on Marijuana Liberalization" *BioScience* Oxford University Press 65: 822–829 (2015).

⁴ Bauer et al. 2015.

General Draft Ordinance Concerns

We would like to first establish our underlying concern that this environmental review process is based on a *draft* that has yet to include the recommendations from the Community Advisory Group (CAG), the community stakeholder coalition that provided the Nevada County Board of Supervisors with regulatory recommendations.⁵

In addition, SYRCL believes that the present version of the ordinance does not encourage legal cannabis cultivation in this community and will allow for the proliferation of illegal cannabis cultivation. Without effective implementation of an ordinance and community consensus, an environmental review processes will not be an accurate determination of the extent of environmental damage in the Yuba River watershed caused by illegal cannabis cultivation.

In the Notice of Preparation (NOP), the County stated one objective of the ordinance is to “[r]educe the adverse effects of commercial cannabis cultivation on the environment through implementation of these regulations and permitting process.”⁶ This objective appears disingenuous based on the fact that the ordinance does not include analysis of small farmer cultivation that is known to occur in this region.⁷ SYRCL strongly encourages the County to review the ordinance in its current state, and consider altering certain zoning and acreage limitations in order to encourage transparency, disclosure and effective regulation of cannabis cultivation in this community. Our concern is that as written, the ordinance will not encourage many cannabis cultivators to come into compliance with this ordinance or state regulations.

Additionally, there is a lack of data to substantiate an accurate assessment of the local environmental impacts of this ordinance. Therefore, SYRCL believes this County should conduct a systematic, spatially-explicit survey to determine accurate environmental effects of cannabis cultivation on the Yuba River watershed. In order to obtain information regarding “cannabis agriculture and its potential impacts on the environment,” Nevada County needs to understand:

- 1) “How many cannabis grows are in the study area, and what are the attributes of these grows?”
- 2) Are there statistically significant spatial patterns of cannabis production within and across watersheds?
- 3) Do grows threaten natural areas by being located on sensitive sites far from developed infrastructure?

⁵ As noted in the “Project Background” description in the NOP, p. 3.

⁶ See Nevada County’s Notice of Preparation as to the contents of the draft Environmental Impact Report, page 10.

⁷ Specifically, the ordinance restricts personal outdoor cultivation in the Agricultural Residential zone, which is a hybrid zoning classification in Nevada County that accounts for many small, individual cannabis cultivators in this community. By not including them in this ordinance, many cultivators will either must shut down operations or continue to cultivate illegally.

- 4) Do grows pose a risk to threatened species due to their water consumption and location near critical habitat?”⁸

Ultimately, SYRCL hopes that these questions will be answered in the DEIR. Unfortunately, Kimley-Horn consultants orally confirmed during the Public Comment Scoping meeting on August 22, 2018 that they will not be conducting geographic-specific studies. Though SYRCL understands the additional cost and possible security risk, comparative assumptions based on other region’s cannabis cultivation patterns will not be an accurate determination of region-specific environmental impacts, and more research will need to be conducted to truly best serve this community and the Yuba River watershed.

Impacts on Water Quality

Marijuana is a water and nutrient-intensive crop.⁹ Therefore, SYRCL is concerned about the current effects and future effects of legal and illegal cannabis cultivation on water quality and the hydrology of the Yuba River watershed. Mainly, the overuse of chemical fertilizers, pesticides and herbicides pollute the water and poison wildlife and increased erosion mobilizes fine sediment. Run-off from cannabis cultivation into tributaries in the Yuba River watershed devastates water quality thereby permanently damaging the river and surrounding ecosystem.

Studies have found heavy use of pesticides, herbicides, fertilizers and petroleum fuels in legal and black-market cannabis cultivation.¹⁰ Those nutrients can then enter the river. The Yuba River provides drinking water for thousands of residents, as well as water for over 25,000 homes, businesses and farmers.¹¹

In addition to water quality concerns, heavy pesticide application poses significant risks to mammalian and avian predators by making their way into terrestrial food chains. Illegal cannabis cultivators often also use rodenticides to deter grazing, poisoning wildlife.¹² One study examined the devastating impact rodenticides have had on the Pacific fisher, a candidate for listing under the Federal Endangered Species Act.¹³ They reported that more than 80% of deceased Pacific fishers recovered in northern California and the southern Sierra Nevada were exposed to “anticoagulant rodenticides, pesticides used to control wood rats (*Neotoma spp.*) in black market–marijuana cultivation.”¹⁴ Furthermore, female fisher survival rates severely decreased in the presence of cannabis cultivation sites.¹⁵

Pesticide and herbicide application can also increase nutrient levels in the Yuba River. The scope of the ordinance only names one water source for legal cannabis cultivation, water supply from

⁸ These questions directed a study conducted in Humboldt County. Butsic, Van and Jacob Brenner, “Cannabis (*Cannabis sativa* or *C. indica*) Agriculture and the Environment: a Systematic, Spatially-Explicit Survey and Potential Impacts” Proceedings of the Coast Redwood Science Symposium, 383-393, 384 (2016).

⁹ Carah et al. 2015, p. 823; citing Vervantes 2006, HGA 2010.

¹⁰ Carah et al. 2015, p. 825; citing USDOJ NDIC 2007, Gabriel et al. 2013.

¹¹ See Nevada Irrigation District’s management plans and website. <<https://nidwater.com/>>.

¹² Carah et al. 2015, p. 825; citing Gabriel et al. 2013.

¹³ Gabriel et al. 2013; Thompson et al. 2014.

¹⁴ Carah et al. 2015, p. 824.

¹⁵ Carah et al. 2015, p. 824.

Nevada Irrigation District (NID). NID relies on the Yuba River watershed to deliver water, maintains 450 miles of raw water conveyance systems, and 350 miles of this system are already treated with herbicides with 62 delivery points. Those include glyphosate in Roundup, and copper-based aquatic herbicides Cutrine and Nautique. Not only does this ordinance and subsequent NOP ignore potential illegal diversions from the Yuba River watershed, but it also does not consider the current state of water quality that NID is purveying to cannabis cultivators. NID is currently looking into organic alternatives, but the DEIR needs to include the possibility that NID water quality will not improve by the time the ordinance comes into effect.¹⁶

SYRCL is concerned that these water quality fears will also serve as a deterrent for increased legalization, thereby rendering this ordinance ineffective. This watershed has a rich legacy of organic agriculture, that rich culture should be encouraged in this ordinance. SYRCL encourages the County to take this opportunity to push our community into a safer and conscious clean water future.¹⁷

We want to thank the County for noting existing cultivation area requirements in the NOP, especially that all cultivators must use “properly permitted water source and wastewater disposal system,” which will assist in mitigation of legal cannabis cultivation in the Yuba River watershed.¹⁸

Impacts on the Hydrology of the Yuba River Watershed

Cannabis cultivation implicates excessive water use concerns as well as negative changes in the watershed’s hydrology due to illegal diversions. Illegal water diversions result in dry creeks and undermine other regulatory efforts to maintain instream flows.¹⁹

Excessive Water Use

There is considerable variance in average water usage reporting for cannabis cultivation, depending on factors such as indoor or outdoor growth, plant maturity, irrigation technique and soil health.²⁰ In addition, it is important to consider the impact of cannabis production in comparison with the production of other local agricultural commodities to determine common

¹⁶ For more information, please see The Union’s recent article “Organic farmer pushes Nevada County’s water district to reduce herbicide use” by Liz Kellar August 30, 2018 and NID’s 2015 Agricultural Water Management Plan.

¹⁷ For more information on other state regulations pertaining to pesticide use and cannabis cultivation, see Feldman, Jay “Pesticide Use in Marijuana Production: Safety Issues and Sustainable Options” *Pesticides and You*, 2014.

¹⁸ NOP, p. 8.

¹⁹ Regulatory efforts include the FERC relicensing efforts for Dam and Hydropower projects already impairing and damaging the watersheds in the Sierra Nevada region, as well as local water management efforts led by local water agencies, such as Nevada Irrigation District, Placer County Water Agency or Yuba Water Agency.

²⁰ Carah et al. 2015, p. 823. Other studies that estimate a 22 or 22.7 liters per plant per day over a 150 day grow season include Bauer et al. 2015, Humboldt Growers Association 2010, and Butsic and Brenner, “Cannabis (*Cannabis sativa* or *C. indica*) Agriculture and the Environment: a Systematic, Spatially-Explicit Survey and Potential Impacts” 386-387.

irrigation techniques as well as compile total agricultural water use.²¹ Other crops cannabis have been compared to include almonds and grape vines used for wine production.²²

One study focused on water usage in the “Emerald Triangle” region of California and reported a drastic difference in water usage for indoor, or greenhouse, cultivation versus outdoor sun-grown cultivation. The study reported that “an estimated 22 liters (L) of water or more per plant per day are applied during the June–October outdoor growing season (HGA 2010).” To estimate regional water application rates, the study used a plant density in *greenhouses* of 900,000 plants per square kilometer (km²) and concluded that approximately 3 billion liters per square kilometer greenhouse-grown marijuana per growing season. In stark contrast, outdoor cultivation used much less water, due to less plant density.²³

Here, for commercial cannabis cultivation, the ordinance prescribes a maximum of 10,000 square feet of canopy for any method or combination of cultivation, on parcels 20 acres or greater in the General Agriculture, Agriculture Exclusive and Forested zones. This is drastically lower in possible density for indoor, mixed or outdoor cultivation. Though we support the overall water conservation this limitation on cannabis cultivation would produce, in actuality this level of regulatory restriction will encourage illegal cannabis cultivation – which furthers unregulated and undocumented water use in both outdoor and indoor cultivation scenarios.

Illegal Diversions

Illegal diversions are another water use concern. These diversions are understood to sustain illegal cannabis cultivation, which studies have postulated are “widespread, increasing, and largely unregulated...in many rural Northern California watersheds.”²⁴ If the County’s ordinance does not encourage legal cultivation, and instead triggers an increase in illegal cultivation, it will have devastating ramifications on the hydrology of the Yuba River watershed.

The normal cultivation season requires irrigation through summer and fall, requiring surface water diversions directly from rivers such as the Yuba River or groundwater pumping due to lack of consistent precipitation. Individual diversions are usually located in sensitive watersheds that are considered “hotspots” of aquatic biodiversity.²⁵ Although the state is currently considering water catchment regulations that would assist in mitigating this issue, in the meantime “surface water diversions for marijuana cultivation have been documented to significantly reduce or eliminate already low stream flow during California’s Mediterranean-type dry summer season,

²¹ Butsic and Brenner, “Cannabis (*Cannabis sativa* or *C. indica*) Agriculture and the Environment: a Systematic, Spatially-Explicit Survey and Potential Impacts” 390.

²² Carah et al. 2015, p. 386-387. “For comparison, wine grapes on the California north coast are estimated to use a mean of 271 million L of water per km² of vines per growing season. Marijuana is therefore estimated to be almost two times “thirstier” than wine grapes, the other major irrigated crop in the region.”

²³ Carah et al. 2015, p. 823. “If we assume a planting density of 130,000 plants per km², water application rates would be approximately 430 million L per km² of outdoor-grown marijuana per growing season.” The study received the information from Scott Bauer, California Department of Fish and Wildlife, personal communication, October 13, 2014.

²⁴ Bauer, et. al. 2015.

²⁵ Carah, et. al. 2015, p. 823; citing Bauer et al. 2015.

particularly during drought years, and therefore threaten the survival of rare and endangered salmonids, amphibians, and other animals.”²⁶

Sustainable water management is an important and imperative goal for this community. NID is currently taking a step towards this effort by updating their Raw Water Master Plan (RWMP), which dictates the management of the main source of untreated water needed for agricultural production. It will be very difficult to obtain accurate estimates of the hydrology for this region or determine accurate water use if there is an increase in illegal cannabis cultivation in the Yuba River watershed.²⁷

Additionally, excessive groundwater withdrawals can damage the unstable fractured granite groundwater reserves that lie beneath Nevada County.²⁸ SYRCL believes that this review process needs to consider and mitigate damage caused by overpumping in a sensitive groundwater region that provides drinking and agricultural water in this community. In order to assess the most accurate and current levels of shallow groundwater storage, the County may need to do a complete hydrogeology scan of the County’s jurisdiction.

Impacts on Land Use and Forest Management

Illegal and legal cannabis cultivation often comes hand in hand with poor land use practices. These include land terracing, road construction, and forest clearing for both semi-legal and black-market cannabis plantations.²⁹ The deforested and poorly graded land damages habitat for native fish and wildlife through the removal of native vegetation³⁰, increased soil erosion³¹ and damaging water quality.³² In addition, “trespass grows” on public lands wreak havoc on the landscape and leads to increased erosion. Cannabis cultivation also impacts soil health, a main component of environmentally-friendly cannabis cultivation. We therefore request that the County give special attention to land use in our community: the impacts of cannabis cultivation on forest health and management.

In 2010, government agencies eradicated 10.3 million cannabis plants and 46% of those plants were discovered on federal lands, primarily on national forests in California, Oregon and Washington.³³ Furthermore, cannabis cultivation in California is mainly concentrated in remote

²⁶ Carah et al. 2015, p.823; citing Gabriel et al. 2013, Bauer et al. 2015.

²⁷ Carah et al. 2015, p. 823; citing Gabriel et al. 2013, Bauer et al. 2015.

²⁸ For more information, please coordinate with the West Placer Groundwater Sustainability Agency and the Yuba Groundwater Sustainability Council, amid developing Groundwater Sustainability Plans that require water management strategies between groundwater and interconnected surface water sources, such as the Yuba and Bear rivers.

²⁹ Carah et al. 2015, p. 825.

³⁰ Carah et al. 2015, p.825; citing Milestone et al. 2012.

³¹ Carah et al. 2015, p.825; citing USDOJ NDIC 2007, Gabriel et al. 2013, Bauer et al. 2015.

³² We go into more detail regarding specific biological resource impacts below in “Impacts on Wildlife and Listed Species.”

³³ Koch, Frank H, Jeffrey Prestemon, Geoffrey Donovan, Everett Hinkley, John Chase, “Predicting cannabis cultivation on national forests using a rational choice framework” *Ecological Economics* 129 (2016) 161–171, 161.

forested watersheds, on private, public, and Native American tribal lands, and is often grown outdoors, with environmental impacts often extending far beyond the specific cultivation site.³⁴

Here, the NOP initially states that thirty percent of the land encompassed in the scope of this ordinance is public land. Additionally, the ordinance allows cannabis cultivation for four non-residential zoning zones, including forested land.³⁵ Forest management is another imperative and important issue for this community, because cannabis cultivation and general harmful land use practices exacerbate California's difficult forest management issues. We believe that devastating land use practices are one of the most concerning environmental impacts cannabis cultivation has on this watershed and encourage Kimley-Horn consultants to do a thorough review of this issue, working with SYRCL as well as other managing agencies.³⁶

Impacts on Wildlife and Listed Species

SYRCL strongly supports the County's inclusion of impacts on "Biological Resources." Cannabis cultivation will directly and indirectly impact the wildlife in our region. In addition to the Fisher case study mentioned above and threats caused by pesticide and rodenticide applications, cannabis cultivation specifically will impact native sensitive and threatened species in our watershed. Sensitive species potentially impacted by degraded water quality or less water available in the ecosystem are the Foothill Yellow Legged Frog, Western Pond Turtle, California Horned Lizard, Western Ridged Mussel, River Otter, Beaver, and Osprey.

Additionally, threatened local species that will be affected are the Layne's ragwort, Vernal pool fairy shrimp, Valley elderberry longhorn beetle, California red-legged frog, steelhead, Chinook salmon³⁷ and North American green sturgeon.³⁸ A number of these species, mainly the red-legged frog, the Chinook Salmon, the steelhead and green sturgeon, rely on the Yuba River watershed for critical habitat that allows the continued survival of their species.³⁹ Those fish species are particularly affected "because they are vulnerable to low flows (imposed by water withdrawals), soil erosion, and agrochemical contamination."⁴⁰ Additionally, soil erosion also increases fine-sediment in streams, damaging spawning and rearing habitat for salmon, such as the local spring-run Chinook salmon.⁴¹

Finally, "trespass grows" from illegal cannabis cultivation occur on public, tribal lands or large timberlands and cultivators "often camp out for many months at a time and poach wildlife for

³⁴ Carah et al. 2015, p.823. For more information, please see Gabriel et al. 2012, Milestone et al. 2012, Thompson et al. 2014, and Bauer et al. 2015.

³⁵ NOP, p. 5-6.

³⁶ NOP, p. 2. Federal agencies include U.S. Forest Service, Tahoe National Forest, and Bureau of Land Management. Nevada Irrigation District is also a land-owner in this area.

³⁷ Spring-run evolutionarily significant unit.

³⁸ Southern DPS.

³⁹ Carah et al. 2015, p.825.

⁴⁰ Butsic and Brenner, "Cannabis (*Cannabis sativa* or *C. indica*) Agriculture and the Environment: a Systematic, Spatially-Explicit Survey and Potential Impacts" 386.

⁴¹ Carah et al. 2015, p.825; citing USDOJ NDIC 2007.

sport and sustenance.”⁴² This could result in unregulated “takings” of threatened and endangered species in the Yuba River watershed, such as spring-run Chinook salmon.

The present spring-run Chinook salmon population in the Yuba River is at a critical all-time low this year.⁴³ Only 65 fish have been reported over Daguerre Point Dam as of August 7, 2018. Though the drought has also played a significant role, the local salmon populations have not recovered since 2016. Cannabis cultivation could be a contributing factor because it damages critical habitat, degrades water quality as well as promotes illegal cultivation, which increases the potential for unregulated takings of the species.

Impacts to Energy Usage and Conservation

When grown indoors, cannabis cultivation can require extensive energy inputs with potentially negative effects on climate.⁴⁴ Indoor cultivation is estimated to use a power density of around 200 watts/per square foot, similar to a data center, while providing four to five harvests a year versus one harvest season per calendar year of sun-grown cultivation. One study concluded that the complete carbon footprint of indoor cultivation produces close to 7,500 kg/CO₂. Essentially, in context, 1 “joint” would equal three pounds of CO₂, grown with a 100-watt light bulb for 25 hours, which equals 22 miles in a Prius vehicle.⁴⁵ Indoor cultivation, therefore, is a high-energy consumptive crop, which will have detrimental effects to local air quality as well as negatively contribute to climate change.⁴⁶

We are encouraged by the ordinance’s separation of artificial, sun and mixed-light tiers within the draft ordinance and the NOP. However, SYRCL strongly encourages the County to add additional incentives in the ordinance and project alternatives for sun-grown cultivation, and sourcing mixed light energy for cultivation from renewable sources such as solar and wind. Specifically, SYRCL finds the complete ban on outdoor cultivation for personal use in certain zones concerning. Notably, that outdoor personal cultivation in Residential Designation is completely prohibited, whereas indoor cultivation is allowed.⁴⁷

Purely sun-grown cultivation decreases fire risk due to requirements to comply with existing County code fire and electrical codes,⁴⁸ and reduces local emissions due to less energy consumption overall. In addition, sun-grown cultivation decreases the carbon footprint left by illegal cannabis cultivation.

⁴² Carah et al. 2015, p.824; citing Milestone et al. 2012, Gabriel et al. 2013.

⁴³ Personal communication from River Science Director Rachel Hutchinson, member of the Yuba River Management Team. Received September 10 2018.

⁴⁴ Carah et al. 2015, p.823; citing Mills 2012, O’Hare et al. 2013.

⁴⁵ Mills, Evan, “Policymakers’ Primer on Assessing the Carbon Footprint of Cannabis Production” Presentation given to Council of State Governments Annual Conference, Las Vegas NV December 14, 2007.

⁴⁶ See California’s recently released Fourth Assessment on Climate Change.

⁴⁷ It is especially important to note that Residential Agriculture zoning designations mean the parcels do not have public water nor public sewer system available.

⁴⁸ NOP, p. 8.

Project Alternatives

SYRCL thanks the County and Kimley-Horn for including an alternative that looks at Increased Cultivation Area Alternative, and furthermore strongly encourages Kimley-Horn and the County to consider a wide variety of Project alternatives in addition to the required “no project alternative” and Reduced Cultivation Area Alternative.⁴⁹ The reasons are three-fold.

First, a variety of alternatives will provide this community with a robust analysis, and subsequent flexibility, for a still-evolving state regulatory future while still protecting the Yuba River watershed.⁵⁰

Additionally, a variety of alternatives will also allow *local* knowledge and data to be formally considered through this robust environmental process. For example, “anecdotal evidence” may be one of the best forms of data Kimley-Horn consultants can glean from the public comments gathered through the CEQA scoping process. This evidence can bolster alternatives by providing a variety of mitigation techniques. For example, in a couple studies “[a]necdotal evidence suggests growers can reduce water use by 70 percent by cultivating small plants that mature quickly, although there is no suggestion of the implications of this production system for yields.”⁵¹

Finally, a variety of project alternatives will also give the community several options moving forward with the complete legalization of commercial cannabis cultivation.

Conclusion

In closing, we appreciate the County and the consultants at Kimley-Horn’s time and dedication to a robust environmental review of this ordinance. This community needs a thorough evaluation of overarching environmental impacts from local cannabis cultivation.

We welcome the opportunity to collaborate during the study period. For coordination, clarification or discussion of any technical matters raised in this letter, please do not hesitate to contact our River Science Director, Rachel Hutchinson, or our River Policy Manager, Ashley Overhouse, by email or phone (530-265-5961).

Sincerely,



Melinda Booth
Executive Director
melinda@yubariver.org

⁴⁹ In accordance with Section 15126.6 of the State CEQA Guidelines.

⁵⁰ See 2018 Legislation Update by California Growers Association for more information.
<https://www.calgrowersassociation.org/2018_legislation>.

⁵¹ Butsic and Brenner, “Cannabis (*Cannabis sativa* or *C. indica*) Agriculture and the Environment: a Systematic, Spatially-Explicit Survey and Potential Impacts” 390, citing Walker 2015.



Rachel Hutchinson
River Science Director
rachel@yubariver.org



Ashley Overhouse
River Policy Manager
ashley@yubariver.org

SYRCL Cannabis Comments

Public Scoping meeting 8/22/18 1:30PM
Presented by River Policy Manager Ashley Overhouse

Hello everyone, my name is Ashley Overhouse and I'm the River Policy Manager at the South Yuba River Citizens League, commonly referred to as SYRCL. I'm here to introduce myself to Board of Supervisors and the CEQA consultant.

I first want to thank the Supervisors and County personnel for initiating this environmental review process, and welcoming public comment in this initial scoping meeting. SYRCL is excited to participate, comment and educate our community regarding the environmental impacts of cannabis cultivation. In fact, the implementation of this ordinance and the subsequent CEQA process is the logical nexus for SYRCL's community efforts.

SYRCL has been an active environmental non-profit organization for the last 35 years, and recently became a member organization in the Waterkeeper Alliance. Additionally, as you may or may not know, SYRCL has been working for the last four years on the environmental impacts of cannabis cultivation with a program called Growing Green. Through this program we have held a series of educational workshops often in collaboration with the Nevada County Cannabis Alliance. Most recently, we produced a series of educational videos featuring local cannabis farmers and their techniques to increase soil health, lessen water usage and decrease agricultural run-off. Those videos can be found online, and I would be more than happy to share them with this group.

In relation to the implementation of this draft ordinance, SYRCL is focused on water quality and environmental impacts. I stress that the nature of the ordinance is still a draft, one that SYRCL did not have an opportunity to comment on. Therefore, we look forward to the many suggested project alternatives that will be initiated through this scoping process, hopefully that are varied, extensive and thorough to cover all the potential effects that could occur to the environment if the ordinance were to change. We would like to echo the Alliance's concerns that the ordinance does not include most of the local cannabis cultivation that already occurs in this community, mainly personal outdoor cultivation on less than 5-acre parcels. Therefore, the actual effectiveness of the ordinance remains to be seen.

Regardless, SYRCL acknowledges and appreciates our community's unique legacy of organic cultivation and environmental stewardship, that often includes innovative and environmentally friendly agricultural practices. We look forward to encouraging this legacy through this environmental review process, and by educating and informing our 1300 active members and volunteers about this exciting local endeavor through a renewed Growing Green program.

Thank you for your time.

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Hengl, Tasha

From: Tracy Huston <tracyhuston@gmail.com>
Sent: Monday, September 10, 2018 3:36 PM
To: Planning; Hank Weston
Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments
Attachments: ENVIRONMENTAL IMPACTS_WATER Summary and Comarison to Other Ag Crops.pdf

Nevada County BOS, CDA, and Concerned Stakeholders:

I am writing as both a strong supporter of appropriately regulated cannabis cultivation and as an environmentalist. I believe without doubt that it is through reasonable regulatory measures that we will both protect our environment and the economic future of our county. To that end, I hope the County and all contributors to the EIR will proceed with a fact-based, data-driven, and transparent process that results in maximum participation in permitting while assuring appropriate conservation countermeasures.

In order to contribute to our growing knowledge base, I am writing today to correct some **erroneous assumptions about the amount of water required for cannabis cultivation, and to share some published research on water use for cannabis** (summary data and charts attached, referenced with sources).

The County has quoted an assumption that cannabis requires 6 gallons of water per day per plant. I, like many others, had heard this figure, but wondered at its validity. Here is what I learned from published research:

- **Humbolt Study, 2010.** The 6 gallon per day per plant figure came from the 2010 Humbolt study. However, Humbolt and other industry analysts report that *the figure was based on only 150 days of the growing season when plants are largest and weather hottest, requiring the most water, and did not account for the remaining 90 days of their 240 day growing season when plants are small, weather cooler, and water usage far less.* Additionally, the study only included large outdoor grows with very large plants, and did not factor in greenhouse and light deprivation techniques with much smaller plants requiring far less water (1 to 4 gallons per day depending on plant size and yield, per studies below). Thus, **the 6 gallon per day per plant figure is inaccurate as an average.** The Humbolt study was, hence, questioned by many other county regulatory agencies and cultivation industry associations, their findings summarized below and in the attached.

- **Mendocino Cannabis Policy Council and Emerald Growers' Association Study.** Prompted by contrary experience to the Humbolt study figures, Mendocino undertook their own study, including diversity of growing techniques (outdoor, greenhouse, light deprivation, as is typical of Nevada County). Their study revealed that farmers were using on average between **2 to 4 gallons per day per plant.** Further, the study analyzed the amount of water used to generate comparable yields, so that the wide array of growing techniques could be distilled into a realistic assumption about water use as an average. They found that **on average cannabis requires 1 gallon of water per 1 plant per 1 pound of dried flower (1:1:1).** This metric has been useful in assessing water use based on differences in plant sizes at maturity/time of harvest, as well as differing water requirements over the course of the growing season, and thus provides a far more accurate average than the Humbolt study. Furthermore, the 1:1:1 metric allows concerned agencies and community members to assess the relative water resource use of cannabis versus other agricultural products. As the attached summary **data shows, 1 pound of dried cannabis flower requires on average 240 gallons of water to produce, whereas 1 pound of beef requires 1500 to 1800 gallons of water, 1 pound of olives 361 gallons of water, 1 pound of plums 261 gallons of water, and 1 bottle of wine 180 to 400 gallons of water.** These documented facts dispel the myth that cannabis cultivation poses a threat to our water resources as much or more than other agricultural products.

- **California NORML Study, 2015.** To further test the validity of the Humbolt and Mendocino studies, as well as to test differences in different growing regions throughout the state, California NORML conducted a study with representative samples from El Dorado, Placer, Humbolt, and Mendocino counties (with samples taken from outdoor growing farms only). Their study showed an **average of 2.4 gallons per day per plant, with the water-to-yield ratios comparable to the Mendocino study of 1:1:1.**

Clearly, the 6 gallons of water per day per plant is not an accurate assumption. And, we need a realistic forecast of water use, so that 1) we can protect our water resources; 2) we avoid what may be unnecessarily restrictive code that will limit permitting without cause, and that would clearly with the intent of the General Plan and agricultural Land Use policy for our county. **I therefore request that County agencies and contributors to the EIR use a corrected average of 2 to 4 gallons per day per plant (a 3 gallons per day average), when considering cultivation baseline and cumulative impacts on water resources.**

If the County or other contributing agencies have research-based evidence that shows water use for cannabis is higher than the referenced studies indicate, I request to see it, as I remain first and foremost a concerned neighbor and environmentalist, and would like the facts to govern our policy decisions.

Lastly, it is worth comparing water use for cannabis based on license type/farm size versus other types of water use which we accept and allow today. According to the State of California, 1 person uses on average 85 gallons of water per day. **A typical family of 4 uses 340 gallons of water per day. Even using the erroneous and overly high figure of 6 gallons per day per plant, a 25-plant farm (specialty cottage licence) would use only 150 gallons of water per day, less than half of what one household uses per day. A 5000sf outdoor cottage licensed farm with 50 plants would use less than 300 gallons per day - less than a family of 4. A 10,000sf, 100 plant farm would use less than 600 gallons per day, which is comparable to water usage for a parcel with a primary residence and one 1800sf accessory dwelling, which county code allows and is of no apparent concern for its environmental impact, as it would be within the bounds of the Land Use Zoning ordinance. Wineries use on average 25,000 gallons of water per week per acre, with water use unregulated.** While I applaud reasonable and necessary regulation to ensure protection of our shared natural resources, equity and precedent matter a great deal in forming new policy, with comparable agricultural resource uses considered objectively along with cannabis cultivation as mere "crops", without bias due to stigma.

As we move forward with the EIR and resulting policy decisions for our county ordinance, it is imperative that the research and analyses used are shared with all stakeholders, so we not only respect final decisions but learn what we must do and improve to be better stewards of our environment. In terms of our water resources, **using a fact-based approach will allow us to accurately assess impacts on hydrology, and to protect our watershed while avoiding unnecessary restrictions that would further prohibit commercial farmers from participating in the regulated marketplace.**

Thank you for your diligence, Tracy Huston

Tracy Huston
1-310-663-1296 cell
Rough and Ready, CA

Hengl, Tasha

From: Virginia <vakers@sbcglobal.net>
Sent: Wednesday, August 22, 2018 4:47 PM
To: Planning
Subject: EIR issues re Cannabis Cultivation

Dear Mr. Foss:

I would like to see the issues of electricity and water usage addressed in the upcoming EIR. As you are aware, growing cannabis requires an inordinate amount of electricity and water to cultivate either outdoors or indoors. The California grid is already at a breaking point and this matter needs to be addressed to find ways to mitigate the eventual brownouts and blackouts caused by this increased electricity consumption. Growing just 6 plants indoors uses as much electricity as 42 refrigerators in one month. In addition, growing marijuana either indoors or out, utilizes an enormous amount of water. Studies done by the California Fish and Wildlife Department showed that it takes approximately 6 gallons of water per plant per day in arid portions of the State such as Nevada County. Just six plants using 6 gallons per day for a 180 day growing season (which is not unreasonable for this County) results in the usage of 6480 gallons of water. Growing just 2500 plants at 6 gals/day times 180 days equals a staggering 2,700,000 gallons of water. I am sure that more than 2500 plants will be grown in the County. The very big issue is: WHERE IS THAT WATER GOING TO COME FROM?

Removing that amount of water out of existing or new wells especially in poor well areas, will put stress on existing wells. As you know, the wells in South County are rather low producing and in certain areas, new wells are going deeper and hitting salt water. NID does not appear to be equipped to provide the MILLIONS of gallons of new water that will be required for cannabis cultivation. After so many drought years, wells in Nevada County and the State at large, are very stressed and some wells have gone dry.

Additionally, the lack of sufficient medical treatment facilities, mental health facilities, code enforcement, law enforcement personnel, fire personnel and jail capacity for the inevitable increase in crime that will follow also need to be addressed as well as the increased traffic bring consumers into the County. Highway 49 is already a nightmare and traffic only gets worse each year.

While I strongly feel that it was ill-advised for Nevada County Supervisors to allow commercial cannabis cultivation in this County, it is imperative that these issues be addressed so as not to create an even less desirable living environment for the existing residents.

Thank you for your consideration.

Virginia Akers

Hengl, Tasha

From: Wade Laughter <wade@houseofharlequin.org>
Sent: Monday, September 10, 2018 4:31 PM
To: Planning
Subject: Nevada County Commercial Cannabis Cultivation Ordinance NOP Scoping Comments

To; Brian Foss, Planning Director
Planning Department
Community Development Agency;

Mr. Foss, I feel compelled to limit my comments at this point in the process. My hope in Nevada County having a holistic approach towards Cannabis regulation would have resulted in an ordinance that encouraged people to come into compliance. The current draft ordinance makes several mistakes if the intention is to Bring people into the regulated marketplace. And therefore reducing the environmental impacts associated with Cannabis Prohibition. The cannabis plant itself is not a threat to the environment nor to health and safety.

My biggest concern is actually about personal use cultivation. Allowing cultivation of up to six plants total in a fully permitted indoor facility is in effect still a ban. Every person who wishes to grow their own in our county Will be compelled to continue to be Outlaw. The costs associated with creating a non-habitable space for Cannabis cultivation means virtually no one Will spend \$80 to \$100 a square foot for a facility to grow six plants indoors.. A more reasonable approach that would encourage people to obey rules would be to register outdoor cultivation in any area where neighbors took no objection. If the purpose of regulation is to solve the problems created by prohibition then our local ordinance must make room for some portion of of the estimated 3500 Gardens [sheriff 2015 2016] . Many of these gardens are on the property of the homeowner or a willing landlord where they care about their property. Reasonable rules that allowed for outdoor "with your tomatoes" and a registration process that allowed inspection and an easy to obtain permit would go a long way to encouraging compliance. Forcing people who want to obey the law to grow their plants indoors it is a huge environmental as well as health and safety risk..

Many of us who have tried to obey the law over the years are being denied access. On our farm all of us who live here have Cannabis recommendations from our physician to treat various ailments. The proposed draft ordinance would force us to do without the medicines we make for our own use or to purchase some version of what we could grow our selves but at a considerably higher cost. This is not taking into account all of the Compassionate Use work we have done over the years. What am I supposed to tell the families who have come to count on our ability to provide High quality specific formulations for the needs of the sick?

To summarize: The rules for personal use cultivation guarantee that most people who want to be able to grow their own cannabis will be outside of any rules. This is the free market with no regulations and no safeguards of any kind except civil and criminal penalties. I am not a big fan of rules but if we are going to have them, Please, recognize the truth of the idea that prohibition has never worked and has caused all the problems . Nevada County can do better.

The carveout for Compassionate Use are a kind gesture on the part of the supervisors and staff but I fear that most people Will not come into regulation nor registration with the county. There is very little incentive to do so.

I also believe that the environmental impact report should include all types of licensing authorized by the state and some discussion about small-scale licensure on ReE-Ag properties.. The environment of our county includes the economic well-being of those 3500 farmers and all of the small businesses and schools and taxes that they pay from their work. Let us come up with an ordinance that brings folk in not continues to push them into the Free Market / with no rules just like the past .

I have much more to say but I want to get this in before 5 PM

Thank you for all you do and how far we have come.

Wade Laughter
13579 Idaho-Maryland Rd.
Nevada City, CA 95959
House of Harlequin



Central Valley Regional Water Quality Control Board

5 September 2018

Brian Foss
County of Nevada
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959

CERTIFIED MAIL
7014 3490 0001 3008 3777

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT, NEVADA COUNTY CANNABIS ORDINANCE (ORD18-2, EIR18-0001) PROJECT, NEVADA COUNTY

Pursuant to the County of Nevada Community Development Agency's 8 August 2018 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Environment Impact Report* for the Nevada County Cannabis Ordinance (ORD18-2, EIR18-0001) Project, located in Nevada County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan

KARL E. LONGLEY SCD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:
http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Cannabis General Order

Cannabis cultivation operations are required to obtain coverage under the State Water Resources Control Board's *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities Order No. WQ 2017-0023-DWQ* (the Cannabis General Order). Cultivators that divert and store surface water (stream, lake, subterranean stream, etc.) to irrigate cannabis also need a valid water right.

The Water Boards Cannabis Cultivation Programs offer an easy to use online Portal for cultivators to apply for **both** Cannabis General Order coverage and a Cannabis Small Irrigation Use Registration (SIUR) water right, if needed.

Visit the Water Boards Cannabis Cultivation Programs Portal at:

<https://public2.waterboards.ca.gov/CGO>

Additional information about the Cannabis General Order, Cannabis SIUR Program, and Portal can be found at:

www.waterboards.ca.gov/cannabis

For questions about the **Cannabis General Order**, please contact the Central Valley Water Board's Cannabis Permitting and Compliance Unit at: centralvalleyredding@waterboards.ca.gov or (530) 224-4845.

For questions about **Water Rights** (Cannabis SIUR), please contact the State Water Board's Division of Water Rights at: CannabisReg@waterboards.ca.gov or (916) 319-9427.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development

¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements – Discharges to Waters of the State

If USACOE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board’s Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver)

R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the

Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/for_growers/apply_coalition_group/index.shtml or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/help/business_help/permit3.shtml

If you have questions regarding these comments, please contact me at (916) 464-4644 or Stephanie.Tadlock@waterboards.ca.gov.



Stephanie Tadlock
Senior Environmental Scientist

Hengl, Tasha

From: wolfcreekalliance@gmail.com on behalf of Jane Pelton @ Wolf Creek Alliance
<janepelt@gmail.com>
Sent: Monday, September 10, 2018 11:12 AM
To: Planning
Cc: Jonathan Keehn
Subject: Cannabis Ordinance Zoning Text Amendment ORD18-2, EIR18-0001

Dear Mr. Foss,

Thank you for the opportunity to comment on the proposed Cannabis Ordinance.

With regard to Sections 1.4 through 1.7 and 1.22, please stipulate strong enforcement measures for setbacks of *at least* 100', and *effective* penalties for growers' failure to follow mandated procedures for preventing any water and/or soil contamination.

The County should prepare a summary document for growers that clearly spells out how growers can avoid contaminating Nevada County's streams and soils.

Thank you for your consideration.

Jane Pelton

P.S. The table of contents contains a typo. It should say "Notice to abate . . ."

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SCOPING MEETING SIGN-IN

Meeting Date: August 22; 1:30 PM

Location: The Foothills Event Center, 400 Idaho Maryland Road, Grass Valley, CA 95945

Topic: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report; Notice of Preparation Scoping Meeting

	NAME	AFFILIATION	PHONE #	E-MAIL
1	Melinda Booth	Syrcel	530 205 5161 x202	melinda@yubariver.org
2	Nichols Bueghman	Cefourty Community	530 798-3924	hilltopheights@gmail.com
3	Allison Durham	self	530-632-3669	marcanh10@gmail.com
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SCOPING MEETING SIGN-IN

Meeting Date: August 22, 1:30 PM

Location: The Foothills Event Center, 400 Idaho Maryland Road, Grass Valley, CA 95945

Topic: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report; Notice of Preparation Scoping Meeting

	NAME	AFFILIATION	PHONE #	E-MAIL
1	Alan Riverway	The Union	530-477-4239	alan@theunion.com
2	Margaret Philipston	Alliance	312-771-6967	maggiere maggie@neccannabisalliance.org
3	Jim Ciaffoni	Harmony Ridge Road Assn.	530 470-9093	jimciaffoni@gmail.com
4	GARY BAKER	Woodsman	530 268-3500	GARY@RANT-A-RITE.COM
5	Ashley Overmoe	SRCL	408-472-4522	ashley@yubariver.org
6	Christina Stanton			
7	April Durham	Self	805-648-2921	Smallwonderfound@gmail.com
8	LAURIE STANTON	UMWA CHAIR	415-577-0743	LAURIANNA@GMAIL.COM
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SCOPING MEETING SIGN-IN

Meeting Date: August 22, 1:30 PM

Location: The Foothills Event Center, 400 Idaho Maryland Road, Grass Valley, CA 95945

Topic: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report; Notice of Preparation Scoping Meeting

	NAME	AFFILIATION	PHONE #	E-MAIL
1	LEE EDERICH	ASTDA	530-273-3065	LEANDER@EDERICH-NEV
2	DANIEL BARTHELOMEW	ELEVATION 2411	320-1193	DANIEL@ELEVATIONS2411.COM
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SCOPING MEETING SIGN-IN

Meeting Date: August 22, 6:00 PM

Location: Bear River High School Multi-Purpose Room, 11130 Magnolia Road, Grass Valley, California 95949

Topic: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report; Notice of Preparation Scoping Meeting

	NAME	AFFILIATION	PHONE #	E-MAIL
1	Ruth Fitzgerald	Home Owner	530-269-2473	FF5goblu@gmail.com
2	Chernea Piperaky	melefor	916 320 7939	Chernapiperaky@gmail
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SCOPING MEETING SIGN-IN

Meeting Date: August 22, 6:00 PM

Location: Bear River High School Multi-Purpose Room, 11130 Magnolia Road, Grass Valley, California 95949

Topic: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report; Notice of Preparation Scoping Meeting

	NAME	AFFILIATION	PHONE #	E-MAIL
1	Alexandria Irons	Royalcrest LLC	530-563-8596	royalcrestcannabis@outlook.com
2	Juice Foley	Resident Ranchos	530-269-3314	rjfoley@suddenlink.net
3	Tina Terrell			
4	Jeremy Good	Mcgin Fire Des	530-269-2488	
5	Dan Glahn + Darcy		530-269-4822	darcyg.glahn@gmail.com
6	Diane Mackey		530-269-1767	
7	Ed Seafield	County Supervisor	530-265-1495	
8	George Rous	Resident Ranchos	760-985-0478	
9	Jim Siterman	Resident - Ranchos	530-269-1207	
10	Gwyn Petrus	Resident - Ranchos	530-269-5644	
11	Robert Petrus	Resident - Ranchos	530-269-0644	
12	Jason + Deidra Burgs	Resident Ranchos		
13	Elvira R. Martinez	Ranchos	530-269-3018	Sugar Shack 80 @ Gmail.com
14	Kathryn Foster	Ranchos - Resident	510-508-1772	kcfoster@gmail.com
15	KARINA WARDEN	ATTORNEY	909-444-0226	Karima@wardenw.us



SCOPING MEETING SIGN-IN

Meeting Date: August 22, 6:00 PM

Location: Bear River High School Multi-Purpose Room, 11130 Magnolia Road, Grass Valley, California 95949

Topic: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report; Notice of Preparation Scoping Meeting

	NAME	AFFILIATION	PHONE #	E-MAIL
1	Lori Codey	Homeowner		lorinikes@gmail.com
2	Ann Kurkli	Homeowner		ann.kurkli@gmail.com
3	Alexander Seislo			AlexanderSeislo@live.com
4	Karen A Baldwin	Baldwin Ranch	530-269-2069	Kabob@prodigy.net
5	Alycia Joanne Jacinto			
6	Jeanne Keris			
7	Diana Gamzon	Nevada County Cannabis Alliance		diana@nccannabis.com
8	Cathy Serman	Home owner	530-906-7732	Sermanjkt@gmail.com
9	Patricia Bars	Ranchos	530-268-7555	Bars@desamedia.TV
10	Cathy Scott	Ranchos Homeowner Resident	530 305 1982	ccharlie@suddenlink.net
11	Sharon MacMillan	Ranchos	269-0966	Nezy@Suddenlink.net
12	Mark + Ana Sargent	Homeowner's in Top Ranchos	530-401-6869	Mis_hebes@msn.com
13	Jack Kerak	Home owner	530-269-0265	
14				
15				



SCOPING MEETING SIGN-IN

Meeting Date: August 30, 1:30 PM

Location: Truckee Town Hall, 10183 Truckee Airport Road, Truckee, California 96161

Topic: Nevada County Commercial Cannabis Cultivation Ordinance Environmental Impact Report; Notice of Preparation Scoping Meeting

	NAME	AFFILIATION	PHONE #	
1	<i>No Attendees</i>			
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Appendix B:

Air Quality Modeling Data

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Indoor Cultivation

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Indoor Cultivation - Nevada County, Annual

**Indoor Cultivation
Nevada County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	10.00	1000sqft	20.00	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 10,000 sf indoor cultivation activity per 20 acres

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Base on 2.6 employees per peice of equipment

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00

Indoor Cultivation - Nevada County, Annual

tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	7/13/2020	7/1/2019
tblConstructionPhase	PhaseEndDate	5/18/2020	6/17/2019
tblConstructionPhase	PhaseEndDate	3/25/2019	1/28/2019
tblConstructionPhase	PhaseEndDate	6/15/2020	6/24/2019
tblConstructionPhase	PhaseEndDate	2/11/2019	1/14/2019
tblConstructionPhase	PhaseStartDate	6/16/2020	6/25/2019
tblConstructionPhase	PhaseStartDate	3/26/2019	1/29/2019
tblConstructionPhase	PhaseStartDate	2/12/2019	1/15/2019
tblConstructionPhase	PhaseStartDate	5/19/2020	6/18/2019
tblConstructionPhase	PhaseStartDate	1/29/2019	1/1/2019
tblGrading	AcresOfGrading	25.00	75.00
tblLandUse	LotAcreage	0.23	20.00
tblTripsAndVMT	WorkerTripNumber	4.00	24.00
tblTripsAndVMT	WorkerTripNumber	1.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	134.97
tblVehicleTrips	SU_TR	1.50	134.97
tblVehicleTrips	WD_TR	1.50	134.97

Indoor Cultivation - Nevada County, Annual

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2915	1.6175	1.2374	2.0500e-003	0.1721	0.0909	0.2630	0.0737	0.0850	0.1587	0.0000	181.2683	181.2683	0.0452	0.0000	182.3972
Maximum	0.2915	1.6175	1.2374	2.0500e-003	0.1721	0.0909	0.2630	0.0737	0.0850	0.1587	0.0000	181.2683	181.2683	0.0452	0.0000	182.3972

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2915	1.6175	1.2374	2.0500e-003	0.0744	0.0909	0.1653	0.0307	0.0850	0.1157	0.0000	181.2681	181.2681	0.0452	0.0000	182.3970
Maximum	0.2915	1.6175	1.2374	2.0500e-003	0.0744	0.0909	0.1653	0.0307	0.0850	0.1157	0.0000	181.2681	181.2681	0.0452	0.0000	182.3970

Indoor Cultivation - Nevada County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	56.79	0.00	37.16	58.37	0.00	27.10	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	1.0789	1.0789
2	4-1-2019	6-30-2019	0.8130	0.8130
3	7-1-2019	9-30-2019	0.0173	0.0173
		Highest	1.0789	1.0789

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.6689	4.0096	6.8412	0.0152	0.9099	0.0217	0.9316	0.2446	0.0206	0.2652	0.0000	1,397.328 3	1,397.328 3	0.1015	0.0000	1,399.866 2
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	0.7206	4.0199	6.8499	0.0153	0.9099	0.0225	0.9324	0.2446	0.0213	0.2660	3.2507	1,437.764 1	1,441.014 8	0.3272	2.2500e-003	1,449.866 6

Indoor Cultivation - Nevada County, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.6689	4.0096	6.8412	0.0152	0.9099	0.0217	0.9316	0.2446	0.0206	0.2652	0.0000	1,397.3283	1,397.3283	0.1015	0.0000	1,399.8662
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	0.7206	4.0199	6.8499	0.0153	0.9099	0.0225	0.9324	0.2446	0.0213	0.2660	3.2507	1,437.7641	1,441.0148	0.3272	2.2500e-003	1,449.8666

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Indoor Cultivation - Nevada County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Indoor Cultivation - Nevada County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	24.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0903	0.0120	0.1023	0.0497	0.0110	0.0607	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410
Total	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0352	0.0120	0.0472	0.0194	0.0110	0.0304	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410
Total	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0699	0.0000	0.0699	0.0209	0.0000	0.0209	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2726	0.1669	3.1000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	27.8507	27.8507	8.8100e-003	0.0000	28.0710
Total	0.0237	0.2726	0.1669	3.1000e-004	0.0699	0.0119	0.0818	0.0209	0.0110	0.0318	0.0000	27.8507	27.8507	8.8100e-003	0.0000	28.0710

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122
Total	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0273	0.0000	0.0273	8.1300e-003	0.0000	8.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2726	0.1669	3.1000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	27.8506	27.8506	8.8100e-003	0.0000	28.0709
Total	0.0237	0.2726	0.1669	3.1000e-004	0.0273	0.0119	0.0392	8.1300e-003	0.0110	0.0191	0.0000	27.8506	27.8506	8.8100e-003	0.0000	28.0709

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122
Total	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5521	117.5521	0.0286	0.0000	118.2680
Total	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5521	117.5521	0.0286	0.0000	118.2680

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0138	3.3200e-003	3.0000e-005	6.5000e-004	1.0000e-004	7.5000e-004	1.9000e-004	1.0000e-004	2.9000e-004	0.0000	2.8149	2.8149	1.8000e-004	0.0000	2.8194
Worker	6.1200e-003	5.5200e-003	0.0481	9.0000e-005	9.3900e-003	7.0000e-005	9.4600e-003	2.5000e-003	7.0000e-005	2.5600e-003	0.0000	8.5373	8.5373	3.7000e-004	0.0000	8.5466
Total	6.6700e-003	0.0194	0.0514	1.2000e-004	0.0100	1.7000e-004	0.0102	2.6900e-003	1.7000e-004	2.8500e-003	0.0000	11.3522	11.3522	5.5000e-004	0.0000	11.3661

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5520	117.5520	0.0286	0.0000	118.2679
Total	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5520	117.5520	0.0286	0.0000	118.2679

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0138	3.3200e-003	3.0000e-005	6.5000e-004	1.0000e-004	7.5000e-004	1.9000e-004	1.0000e-004	2.9000e-004	0.0000	2.8149	2.8149	1.8000e-004	0.0000	2.8194
Worker	6.1200e-003	5.5200e-003	0.0481	9.0000e-005	9.3900e-003	7.0000e-005	9.4600e-003	2.5000e-003	7.0000e-005	2.5600e-003	0.0000	8.5373	8.5373	3.7000e-004	0.0000	8.5466
Total	6.6700e-003	0.0194	0.0514	1.2000e-004	0.0100	1.7000e-004	0.0102	2.6900e-003	1.7000e-004	2.8500e-003	0.0000	11.3522	11.3522	5.5000e-004	0.0000	11.3661

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593

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3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671
Total	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593

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3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671
Total	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.1166	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

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3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534
Total	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.1166	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

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3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534
Total	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Indoor Cultivation - Nevada County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6689	4.0096	6.8412	0.0152	0.9099	0.0217	0.9316	0.2446	0.0206	0.2652	0.0000	1,397.328 3	1,397.328 3	0.1015	0.0000	1,399.866 2
Unmitigated	0.6689	4.0096	6.8412	0.0152	0.9099	0.0217	0.9316	0.2446	0.0206	0.2652	0.0000	1,397.328 3	1,397.328 3	0.1015	0.0000	1,399.866 2

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1,349.70	1,349.70	1,349.70	2,456,450	2,456,450
Total	1,349.70	1,349.70	1,349.70	2,456,450	2,456,450

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Indoor Cultivation - Nevada County, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
NaturalGas Mitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
NaturalGas Unmitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

Indoor Cultivation - Nevada County, Annual

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		25.6584	1.1600e-003	2.4000e-004	25.7589

Indoor Cultivation - Nevada County, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		25.6584	1.1600e-003	2.4000e-004	25.7589

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Unmitigated	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

Indoor Cultivation - Nevada County, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

7.0 Water Detail

Indoor Cultivation - Nevada County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.3738	0.0755	1.8100e-003	6.8021
Unmitigated	4.3738	0.0755	1.8100e-003	6.8021

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		4.3738	0.0755	1.8100e-003	6.8021

Indoor Cultivation - Nevada County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		4.3738	0.0755	1.8100e-003	6.8021

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.5171	0.1488	0.0000	6.2360
Unmitigated	2.5171	0.1488	0.0000	6.2360

Indoor Cultivation - Nevada County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		2.5171	0.1488	0.0000	6.2360

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		2.5171	0.1488	0.0000	6.2360

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Indoor Cultivation - Nevada County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Indoor Cultivation - Nevada County, Summer

**Indoor Cultivation
Nevada County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	10.00	1000sqft	20.00	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - 10,000 sf indoor cultivation activity per 20 acres
- Construction Phase - Estimated 6 month construction schedule
- Trips and VMT - Base on 2.6 employees per peice of equipment
- Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles
- Construction Off-road Equipment Mitigation -

Indoor Cultivation - Nevada County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblGrading	AcresOfGrading	25.00	75.00
tblLandUse	LotAcreage	0.23	20.00
tblTripsAndVMT	WorkerTripNumber	4.00	24.00
tblTripsAndVMT	WorkerTripNumber	1.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	134.97
tblVehicleTrips	SU_TR	1.50	134.97
tblVehicleTrips	WD_TR	1.50	134.97

2.0 Emissions Summary

Indoor Cultivation - Nevada County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	4.2186	21.2073	35.6745	0.0876	5.2440	0.1184	5.3623	1.4042	0.1120	1.5162		8,873.5440	8,873.5440	0.5943		8,888.4010
Total	4.5024	21.2634	35.7226	0.0879	5.2440	0.1226	5.3666	1.4042	0.1163	1.5204		8,940.8145	8,940.8145	0.5956	1.2300e-003	8,956.0714

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	4.2186	21.2073	35.6745	0.0876	5.2440	0.1184	5.3623	1.4042	0.1120	1.5162		8,873.5440	8,873.5440	0.5943		8,888.4010
Total	4.5024	21.2634	35.7226	0.0879	5.2440	0.1226	5.3666	1.4042	0.1163	1.5204		8,940.8145	8,940.8145	0.5956	1.2300e-003	8,956.0714

Indoor Cultivation - Nevada County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Indoor Cultivation - Nevada County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	24.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Indoor Cultivation - Nevada County, Summer

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Indoor Cultivation - Nevada County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	7.0458	2.3904	9.4362	3.8730	2.1991	6.0721	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Indoor Cultivation - Nevada County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.9758	0.0000	13.9758	4.1691	0.0000	4.1691			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	13.9758	2.3827	16.3585	4.1691	2.1920	6.3611		6,140.0195	6,140.0195	1.9426		6,188.5854

Indoor Cultivation - Nevada County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151
Total	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4506	0.0000	5.4506	1.6259	0.0000	1.6259			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	5.4506	2.3827	7.8332	1.6259	2.1920	3.8180	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Indoor Cultivation - Nevada County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151
Total	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Indoor Cultivation - Nevada County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2718	0.0601	6.0000e-004	0.0136	2.0400e-003	0.0156	3.9000e-003	1.9500e-003	5.8600e-003		62.9623	62.9623	3.7700e-003		63.0566
Worker	0.1305	0.0918	0.9882	2.0300e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		201.5235	201.5235	8.5800e-003		201.7381
Total	0.1411	0.3637	1.0483	2.6300e-003	0.2107	3.4500e-003	0.2142	0.0562	3.2500e-003	0.0595		264.4859	264.4859	0.0124		264.7947

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Indoor Cultivation - Nevada County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2718	0.0601	6.0000e-004	0.0136	2.0400e-003	0.0156	3.9000e-003	1.9500e-003	5.8600e-003		62.9623	62.9623	3.7700e-003		63.0566
Worker	0.1305	0.0918	0.9882	2.0300e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		201.5235	201.5235	8.5800e-003		201.7381
Total	0.1411	0.3637	1.0483	2.6300e-003	0.2107	3.4500e-003	0.2142	0.0562	3.2500e-003	0.0595		264.4859	264.4859	0.0124		264.7947

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548

Indoor Cultivation - Nevada County, Summer

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

Indoor Cultivation - Nevada County, Summer

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Indoor Cultivation - Nevada County, Summer

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173
Total	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Indoor Cultivation - Nevada County, Summer

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173
Total	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Indoor Cultivation - Nevada County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2186	21.2073	35.6745	0.0876	5.2440	0.1184	5.3623	1.4042	0.1120	1.5162		8,873.5440	8,873.5440	0.5943		8,888.4010
Unmitigated	4.2186	21.2073	35.6745	0.0876	5.2440	0.1184	5.3623	1.4042	0.1120	1.5162		8,873.5440	8,873.5440	0.5943		8,888.4010

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1,349.70	1,349.70	1,349.70	2,456,454	2,456,454
Total	1,349.70	1,349.70	1,349.70	2,456,454	2,456,454

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Indoor Cultivation - Nevada County, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
NaturalGas Unmitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	571.781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

Indoor Cultivation - Nevada County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0.571781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Unmitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Indoor Cultivation - Nevada County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

7.0 Water Detail

Indoor Cultivation - Nevada County, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Indoor Cultivation - Nevada County, Winter

**Indoor Cultivation
Nevada County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	10.00	1000sqft	20.00	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 10,000 sf indoor cultivation activity per 20 acres

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Base on 2.6 employees per peice of equipment

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Construction Off-road Equipment Mitigation -

Indoor Cultivation - Nevada County, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblGrading	AcresOfGrading	25.00	75.00
tblLandUse	LotAcreage	0.23	20.00
tblTripsAndVMT	WorkerTripNumber	4.00	24.00
tblTripsAndVMT	WorkerTripNumber	1.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	134.97
tblVehicleTrips	SU_TR	1.50	134.97
tblVehicleTrips	WD_TR	1.50	134.97

2.0 Emissions Summary

Indoor Cultivation - Nevada County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	3.6664	22.2720	40.0023	0.0820	5.2440	0.1211	5.3650	1.4042	0.1146	1.5188		8,297.2237	8,297.2237	0.6438		8,313.3184
Total	3.9502	22.3280	40.0504	0.0823	5.2440	0.1253	5.3693	1.4042	0.1189	1.5230		8,364.4942	8,364.4942	0.6451	1.2300e-003	8,380.9888

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	3.6664	22.2720	40.0023	0.0820	5.2440	0.1211	5.3650	1.4042	0.1146	1.5188		8,297.2237	8,297.2237	0.6438		8,313.3184
Total	3.9502	22.3280	40.0504	0.0823	5.2440	0.1253	5.3693	1.4042	0.1189	1.5230		8,364.4942	8,364.4942	0.6451	1.2300e-003	8,380.9888

Indoor Cultivation - Nevada County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Indoor Cultivation - Nevada County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	24.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Indoor Cultivation - Nevada County, Winter

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Indoor Cultivation - Nevada County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	7.0458	2.3904	9.4362	3.8730	2.1991	6.0721	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Indoor Cultivation - Nevada County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.9758	0.0000	13.9758	4.1691	0.0000	4.1691			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	13.9758	2.3827	16.3585	4.1691	2.1920	6.3611		6,140.0195	6,140.0195	1.9426		6,188.5854

Indoor Cultivation - Nevada County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698
Total	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4506	0.0000	5.4506	1.6259	0.0000	1.6259			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	5.4506	2.3827	7.8332	1.6259	2.1920	3.8180	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Indoor Cultivation - Nevada County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698
Total	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Indoor Cultivation - Nevada County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0113	0.2756	0.0723	5.8000e-004	0.0136	2.0800e-003	0.0156	3.9000e-003	1.9900e-003	5.8900e-003		60.8098	60.8098	4.2400e-003		60.9158
Worker	0.1341	0.1204	0.9874	1.8700e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		185.2764	185.2764	8.3000e-003		185.4838
Total	0.1454	0.3960	1.0596	2.4500e-003	0.2107	3.4900e-003	0.2142	0.0562	3.2900e-003	0.0595		246.0862	246.0862	0.0125		246.3996

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Indoor Cultivation - Nevada County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0113	0.2756	0.0723	5.8000e-004	0.0136	2.0800e-003	0.0156	3.9000e-003	1.9900e-003	5.8900e-003		60.8098	60.8098	4.2400e-003		60.9158
Worker	0.1341	0.1204	0.9874	1.8700e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		185.2764	185.2764	8.3000e-003		185.4838
Total	0.1454	0.3960	1.0596	2.4500e-003	0.2107	3.4900e-003	0.2142	0.0562	3.2900e-003	0.0595		246.0862	246.0862	0.0125		246.3996

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548

Indoor Cultivation - Nevada County, Winter

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

Indoor Cultivation - Nevada County, Winter

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Indoor Cultivation - Nevada County, Winter

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855
Total	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Indoor Cultivation - Nevada County, Winter

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855
Total	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Indoor Cultivation - Nevada County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.6664	22.2720	40.0023	0.0820	5.2440	0.1211	5.3650	1.4042	0.1146	1.5188		8,297.2237	8,297.2237	0.6438		8,313.3184
Unmitigated	3.6664	22.2720	40.0023	0.0820	5.2440	0.1211	5.3650	1.4042	0.1146	1.5188		8,297.2237	8,297.2237	0.6438		8,313.3184

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1,349.70	1,349.70	1,349.70	2,456,454	2,456,454
Total	1,349.70	1,349.70	1,349.70	2,456,454	2,456,454

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Indoor Cultivation - Nevada County, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
NaturalGas Unmitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	571.781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

Indoor Cultivation - Nevada County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0.571781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Unmitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Indoor Cultivation - Nevada County, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

7.0 Water Detail

Indoor Cultivation - Nevada County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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Mixed-Light Cultivation

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Mixed-Light Cultivation - Nevada County, Annual

**Mixed-Light Cultivation
Nevada County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	10.00	1000sqft	20.00	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 10,000 sf indoor cultivation activity per 20 acres

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Base on 2.6 employees per peice of equipment

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00

Mixed-Light Cultivation - Nevada County, Annual

tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	7/13/2020	7/1/2019
tblConstructionPhase	PhaseEndDate	5/18/2020	6/17/2019
tblConstructionPhase	PhaseEndDate	3/25/2019	1/28/2019
tblConstructionPhase	PhaseEndDate	6/15/2020	6/24/2019
tblConstructionPhase	PhaseEndDate	2/11/2019	1/14/2019
tblConstructionPhase	PhaseStartDate	6/16/2020	6/25/2019
tblConstructionPhase	PhaseStartDate	3/26/2019	1/29/2019
tblConstructionPhase	PhaseStartDate	2/12/2019	1/15/2019
tblConstructionPhase	PhaseStartDate	5/19/2020	6/18/2019
tblConstructionPhase	PhaseStartDate	1/29/2019	1/1/2019
tblGrading	AcresOfGrading	25.00	75.00
tblLandUse	LotAcreage	0.23	20.00
tblTripsAndVMT	WorkerTripNumber	4.00	24.00
tblTripsAndVMT	WorkerTripNumber	1.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	23.46
tblVehicleTrips	SU_TR	1.50	23.46
tblVehicleTrips	WD_TR	1.50	23.46

Mixed-Light Cultivation - Nevada County, Annual

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2915	1.6175	1.2374	2.0500e-003	0.1721	0.0909	0.2630	0.0737	0.0850	0.1587	0.0000	181.2683	181.2683	0.0452	0.0000	182.3972
Maximum	0.2915	1.6175	1.2374	2.0500e-003	0.1721	0.0909	0.2630	0.0737	0.0850	0.1587	0.0000	181.2683	181.2683	0.0452	0.0000	182.3972

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2915	1.6175	1.2374	2.0500e-003	0.0744	0.0909	0.1653	0.0307	0.0850	0.1157	0.0000	181.2681	181.2681	0.0452	0.0000	182.3970
Maximum	0.2915	1.6175	1.2374	2.0500e-003	0.0744	0.0909	0.1653	0.0307	0.0850	0.1157	0.0000	181.2681	181.2681	0.0452	0.0000	182.3970

Mixed-Light Cultivation - Nevada County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	56.79	0.00	37.16	58.37	0.00	27.10	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	1.0789	1.0789
2	4-1-2019	6-30-2019	0.8130	0.8130
3	7-1-2019	9-30-2019	0.0173	0.0173
		Highest	1.0789	1.0789

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.1163	0.6971	1.1893	2.6400e-003	0.1582	3.7800e-003	0.1620	0.0425	3.5700e-003	0.0461	0.0000	242.9235	242.9235	0.0177	0.0000	243.3647
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	0.1681	0.7073	1.1980	2.7000e-003	0.1582	4.5600e-003	0.1627	0.0425	4.3500e-003	0.0469	3.2507	283.3592	286.6100	0.2433	2.2500e-003	293.3651

Mixed-Light Cultivation - Nevada County, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.1163	0.6971	1.1893	2.6400e-003	0.1582	3.7800e-003	0.1620	0.0425	3.5700e-003	0.0461	0.0000	242.9235	242.9235	0.0177	0.0000	243.3647
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	0.1681	0.7073	1.1980	2.7000e-003	0.1582	4.5600e-003	0.1627	0.0425	4.3500e-003	0.0469	3.2507	283.3592	286.6100	0.2433	2.2500e-003	293.3651

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Mixed-Light Cultivation - Nevada County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	24.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0903	0.0120	0.1023	0.0497	0.0110	0.0607	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410
Total	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0352	0.0120	0.0472	0.0194	0.0110	0.0304	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410
Total	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0699	0.0000	0.0699	0.0209	0.0000	0.0209	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2726	0.1669	3.1000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	27.8507	27.8507	8.8100e-003	0.0000	28.0710
Total	0.0237	0.2726	0.1669	3.1000e-004	0.0699	0.0119	0.0818	0.0209	0.0110	0.0318	0.0000	27.8507	27.8507	8.8100e-003	0.0000	28.0710

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122
Total	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0273	0.0000	0.0273	8.1300e-003	0.0000	8.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2726	0.1669	3.1000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	27.8506	27.8506	8.8100e-003	0.0000	28.0709
Total	0.0237	0.2726	0.1669	3.1000e-004	0.0273	0.0119	0.0392	8.1300e-003	0.0110	0.0191	0.0000	27.8506	27.8506	8.8100e-003	0.0000	28.0709

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122
Total	5.1000e-004	4.6000e-004	4.0000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7114	0.7114	3.0000e-005	0.0000	0.7122

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5521	117.5521	0.0286	0.0000	118.2680
Total	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5521	117.5521	0.0286	0.0000	118.2680

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0138	3.3200e-003	3.0000e-005	6.5000e-004	1.0000e-004	7.5000e-004	1.9000e-004	1.0000e-004	2.9000e-004	0.0000	2.8149	2.8149	1.8000e-004	0.0000	2.8194
Worker	6.1200e-003	5.5200e-003	0.0481	9.0000e-005	9.3900e-003	7.0000e-005	9.4600e-003	2.5000e-003	7.0000e-005	2.5600e-003	0.0000	8.5373	8.5373	3.7000e-004	0.0000	8.5466
Total	6.6700e-003	0.0194	0.0514	1.2000e-004	0.0100	1.7000e-004	0.0102	2.6900e-003	1.7000e-004	2.8500e-003	0.0000	11.3522	11.3522	5.5000e-004	0.0000	11.3661

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5520	117.5520	0.0286	0.0000	118.2679
Total	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5520	117.5520	0.0286	0.0000	118.2679

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0138	3.3200e-003	3.0000e-005	6.5000e-004	1.0000e-004	7.5000e-004	1.9000e-004	1.0000e-004	2.9000e-004	0.0000	2.8149	2.8149	1.8000e-004	0.0000	2.8194
Worker	6.1200e-003	5.5200e-003	0.0481	9.0000e-005	9.3900e-003	7.0000e-005	9.4600e-003	2.5000e-003	7.0000e-005	2.5600e-003	0.0000	8.5373	8.5373	3.7000e-004	0.0000	8.5466
Total	6.6700e-003	0.0194	0.0514	1.2000e-004	0.0100	1.7000e-004	0.0102	2.6900e-003	1.7000e-004	2.8500e-003	0.0000	11.3522	11.3522	5.5000e-004	0.0000	11.3661

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593

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3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671
Total	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593

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3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671
Total	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.1166	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

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3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534
Total	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.1166	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

Mixed-Light Cultivation - Nevada County, Annual

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534
Total	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Mixed-Light Cultivation - Nevada County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1163	0.6971	1.1893	2.6400e-003	0.1582	3.7800e-003	0.1620	0.0425	3.5700e-003	0.0461	0.0000	242.9235	242.9235	0.0177	0.0000	243.3647
Unmitigated	0.1163	0.6971	1.1893	2.6400e-003	0.1582	3.7800e-003	0.1620	0.0425	3.5700e-003	0.0461	0.0000	242.9235	242.9235	0.0177	0.0000	243.3647

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	234.64	234.64	234.64	427,050	427,050
Total	234.64	234.64	234.64	427,050	427,050

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Mixed-Light Cultivation - Nevada County, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
NaturalGas Mitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
NaturalGas Unmitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

Mixed-Light Cultivation - Nevada County, Annual

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		25.6584	1.1600e-003	2.4000e-004	25.7589

Mixed-Light Cultivation - Nevada County, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		25.6584	1.1600e-003	2.4000e-004	25.7589

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Unmitigated	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

Mixed-Light Cultivation - Nevada County, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	0.0507	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

7.0 Water Detail

Mixed-Light Cultivation - Nevada County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.3738	0.0755	1.8100e-003	6.8021
Unmitigated	4.3738	0.0755	1.8100e-003	6.8021

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		4.3738	0.0755	1.8100e-003	6.8021

Mixed-Light Cultivation - Nevada County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		4.3738	0.0755	1.8100e-003	6.8021

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.5171	0.1488	0.0000	6.2360
Unmitigated	2.5171	0.1488	0.0000	6.2360

Mixed-Light Cultivation - Nevada County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		2.5171	0.1488	0.0000	6.2360

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		2.5171	0.1488	0.0000	6.2360

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Mixed-Light Cultivation - Nevada County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Mixed-Light Cultivation - Nevada County, Summer

Mixed-Light Cultivation
Nevada County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	10.00	1000sqft	20.00	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 10,000 sf indoor cultivation activity per 20 acres

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Base on 2.6 employees per peice of equipment

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Construction Off-road Equipment Mitigation -

Mixed-Light Cultivation - Nevada County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblGrading	AcresOfGrading	25.00	75.00
tblLandUse	LotAcreage	0.23	20.00
tblTripsAndVMT	WorkerTripNumber	4.00	24.00
tblTripsAndVMT	WorkerTripNumber	1.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	23.46
tblVehicleTrips	SU_TR	1.50	23.46
tblVehicleTrips	WD_TR	1.50	23.46

2.0 Emissions Summary

Mixed-Light Cultivation - Nevada County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	0.7333	3.6862	6.2008	0.0152	0.9115	0.0206	0.9321	0.2441	0.0195	0.2635		1,542.3675	1,542.3675	0.1033		1,544.9499
Total	1.0170	3.7423	6.2489	0.0156	0.9115	0.0248	0.9363	0.2441	0.0237	0.2678		1,609.6380	1,609.6380	0.1046	1.2300e-003	1,612.6203

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	0.7333	3.6862	6.2008	0.0152	0.9115	0.0206	0.9321	0.2441	0.0195	0.2635		1,542.3675	1,542.3675	0.1033		1,544.9499
Total	1.0170	3.7423	6.2489	0.0156	0.9115	0.0248	0.9363	0.2441	0.0237	0.2678		1,609.6380	1,609.6380	0.1046	1.2300e-003	1,612.6203

Mixed-Light Cultivation - Nevada County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Mixed-Light Cultivation - Nevada County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	24.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Mixed-Light Cultivation - Nevada County, Summer

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Mixed-Light Cultivation - Nevada County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	7.0458	2.3904	9.4362	3.8730	2.1991	6.0721	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mixed-Light Cultivation - Nevada County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.9758	0.0000	13.9758	4.1691	0.0000	4.1691			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	13.9758	2.3827	16.3585	4.1691	2.1920	6.3611		6,140.0195	6,140.0195	1.9426		6,188.5854

Mixed-Light Cultivation - Nevada County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151
Total	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4506	0.0000	5.4506	1.6259	0.0000	1.6259			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	5.4506	2.3827	7.8332	1.6259	2.1920	3.8180	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Mixed-Light Cultivation - Nevada County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151
Total	0.1087	0.0765	0.8235	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		167.9363	167.9363	7.1500e-003		168.1151

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Mixed-Light Cultivation - Nevada County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2718	0.0601	6.0000e-004	0.0136	2.0400e-003	0.0156	3.9000e-003	1.9500e-003	5.8600e-003		62.9623	62.9623	3.7700e-003		63.0566
Worker	0.1305	0.0918	0.9882	2.0300e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		201.5235	201.5235	8.5800e-003		201.7381
Total	0.1411	0.3637	1.0483	2.6300e-003	0.2107	3.4500e-003	0.2142	0.0562	3.2500e-003	0.0595		264.4859	264.4859	0.0124		264.7947

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Mixed-Light Cultivation - Nevada County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0107	0.2718	0.0601	6.0000e-004	0.0136	2.0400e-003	0.0156	3.9000e-003	1.9500e-003	5.8600e-003		62.9623	62.9623	3.7700e-003		63.0566
Worker	0.1305	0.0918	0.9882	2.0300e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		201.5235	201.5235	8.5800e-003		201.7381
Total	0.1411	0.3637	1.0483	2.6300e-003	0.2107	3.4500e-003	0.2142	0.0562	3.2500e-003	0.0595		264.4859	264.4859	0.0124		264.7947

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548

Mixed-Light Cultivation - Nevada County, Summer

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

Mixed-Light Cultivation - Nevada County, Summer

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Mixed-Light Cultivation - Nevada County, Summer

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173
Total	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Mixed-Light Cultivation - Nevada County, Summer

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173
Total	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Mixed-Light Cultivation - Nevada County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7333	3.6862	6.2008	0.0152	0.9115	0.0206	0.9321	0.2441	0.0195	0.2635		1,542.3675	1,542.3675	0.1033		1,544.9499
Unmitigated	0.7333	3.6862	6.2008	0.0152	0.9115	0.0206	0.9321	0.2441	0.0195	0.2635		1,542.3675	1,542.3675	0.1033		1,544.9499

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	234.60	234.60	234.60	426,972	426,972
Total	234.60	234.60	234.60	426,972	426,972

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Mixed-Light Cultivation - Nevada County, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
NaturalGas Unmitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	571.781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

Mixed-Light Cultivation - Nevada County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0.571781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Unmitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Mixed-Light Cultivation - Nevada County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

7.0 Water Detail

Mixed-Light Cultivation - Nevada County, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Mixed-Light Cultivation - Nevada County, Winter

Mixed-Light Cultivation
Nevada County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	10.00	1000sqft	20.00	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 10,000 sf indoor cultivation activity per 20 acres

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Base on 2.6 employees per peice of equipment

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Construction Off-road Equipment Mitigation -

Mixed-Light Cultivation - Nevada County, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblGrading	AcresOfGrading	25.00	75.00
tblLandUse	LotAcreage	0.23	20.00
tblTripsAndVMT	WorkerTripNumber	4.00	24.00
tblTripsAndVMT	WorkerTripNumber	1.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	23.46
tblVehicleTrips	SU_TR	1.50	23.46
tblVehicleTrips	WD_TR	1.50	23.46

2.0 Emissions Summary

Mixed-Light Cultivation - Nevada County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	0.6373	3.8712	6.9531	0.0142	0.9115	0.0210	0.9325	0.2441	0.0199	0.2640		1,442.1936	1,442.1936	0.1119		1,444.9911
Total	0.9210	3.9273	7.0012	0.0146	0.9115	0.0253	0.9368	0.2441	0.0242	0.2682		1,509.4641	1,509.4641	0.1132	1.2300e-003	1,512.6615

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Energy	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Mobile	0.6373	3.8712	6.9531	0.0142	0.9115	0.0210	0.9325	0.2441	0.0199	0.2640		1,442.1936	1,442.1936	0.1119		1,444.9911
Total	0.9210	3.9273	7.0012	0.0146	0.9115	0.0253	0.9368	0.2441	0.0242	0.2682		1,509.4641	1,509.4641	0.1132	1.2300e-003	1,512.6615

Mixed-Light Cultivation - Nevada County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Mixed-Light Cultivation - Nevada County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	24.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Mixed-Light Cultivation - Nevada County, Winter

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Mixed-Light Cultivation - Nevada County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	7.0458	2.3904	9.4362	3.8730	2.1991	6.0721	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mixed-Light Cultivation - Nevada County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.9758	0.0000	13.9758	4.1691	0.0000	4.1691			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	13.9758	2.3827	16.3585	4.1691	2.1920	6.3611		6,140.0195	6,140.0195	1.9426		6,188.5854

Mixed-Light Cultivation - Nevada County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698
Total	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4506	0.0000	5.4506	1.6259	0.0000	1.6259			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	5.4506	2.3827	7.8332	1.6259	2.1920	3.8180	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Mixed-Light Cultivation - Nevada County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698
Total	0.1118	0.1003	0.8228	1.5500e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		154.3970	154.3970	6.9100e-003		154.5698

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Mixed-Light Cultivation - Nevada County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0113	0.2756	0.0723	5.8000e-004	0.0136	2.0800e-003	0.0156	3.9000e-003	1.9900e-003	5.8900e-003		60.8098	60.8098	4.2400e-003		60.9158
Worker	0.1341	0.1204	0.9874	1.8700e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		185.2764	185.2764	8.3000e-003		185.4838
Total	0.1454	0.3960	1.0596	2.4500e-003	0.2107	3.4900e-003	0.2142	0.0562	3.2900e-003	0.0595		246.0862	246.0862	0.0125		246.3996

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Mixed-Light Cultivation - Nevada County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0113	0.2756	0.0723	5.8000e-004	0.0136	2.0800e-003	0.0156	3.9000e-003	1.9900e-003	5.8900e-003		60.8098	60.8098	4.2400e-003		60.9158
Worker	0.1341	0.1204	0.9874	1.8700e-003	0.1972	1.4100e-003	0.1986	0.0523	1.3000e-003	0.0536		185.2764	185.2764	8.3000e-003		185.4838
Total	0.1454	0.3960	1.0596	2.4500e-003	0.2107	3.4900e-003	0.2142	0.0562	3.2900e-003	0.0595		246.0862	246.0862	0.0125		246.3996

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548

Mixed-Light Cultivation - Nevada County, Winter

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

Mixed-Light Cultivation - Nevada County, Winter

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Mixed-Light Cultivation - Nevada County, Winter

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855
Total	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	46.6164	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Mixed-Light Cultivation - Nevada County, Winter

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855
Total	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Mixed-Light Cultivation - Nevada County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6373	3.8712	6.9531	0.0142	0.9115	0.0210	0.9325	0.2441	0.0199	0.2640		1,442.1936	1,442.1936	0.1119		1,444.9911
Unmitigated	0.6373	3.8712	6.9531	0.0142	0.9115	0.0210	0.9325	0.2441	0.0199	0.2640		1,442.1936	1,442.1936	0.1119		1,444.9911

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	234.60	234.60	234.60	426,972	426,972
Total	234.60	234.60	234.60	426,972	426,972

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Mixed-Light Cultivation - Nevada County, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
NaturalGas Unmitigated	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	571.781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

Mixed-Light Cultivation - Nevada County, Winter

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0.571781	6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681
Total		6.1700e-003	0.0561	0.0471	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003		67.2683	67.2683	1.2900e-003	1.2300e-003	67.6681

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Unmitigated	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Mixed-Light Cultivation - Nevada County, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003
Total	0.2776	1.0000e-005	1.0300e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1900e-003	2.1900e-003	1.0000e-005		2.3400e-003

7.0 Water Detail

Mixed-Light Cultivation - Nevada County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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Commercial Cultivation

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Outdoor Cultivation - Nevada County, Annual

**Outdoor Cultivation
Nevada County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	20.00	User Defined Unit	20.00	1.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Outdoor Cultivation - Nevada County, Annual

Project Characteristics -

Land Use - 20 acre per outdoor cultivation activity

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Estimated construction workers of 2.6 workers per peice of equipment

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Energy Use - Energy use for a 500 sf office shop building on a 10,000 sf outdoor cultivation site

Water And Wastewater - Interior from heavy industrial rate for 500 sf office shop building; exterior rate for a 0.25 acre gold course

Solid Waste - Disposal rate for 500 sf office

Construction Off-road Equipment Mitigation -

Grading - x

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	18.00	5.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	8.00	10.00
tblConstructionPhase	NumDays	18.00	5.00
tblConstructionPhase	NumDays	5.00	10.00
tblEnergyUse	LightingElect	0.00	73.00
tblEnergyUse	NT24E	0.00	89.50
tblEnergyUse	NT24NG	0.00	7.00
tblEnergyUse	T24E	0.00	65.50
tblEnergyUse	T24NG	0.00	319.25
tblGrading	AcresOfGrading	5.00	20.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblLandUse	LotAcreage	0.00	20.00
tblSolidWaste	SolidWasteGenerationRate	0.00	0.47

Outdoor Cultivation - Nevada County, Annual

tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CC_TTP	0.00	28.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CNW_TTP	0.00	13.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	CW_TTP	0.00	59.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	2.01
tblVehicleTrips	SU_TR	0.00	2.01
tblVehicleTrips	WD_TR	0.00	2.01
tblWater	IndoorWaterUseRate	0.00	88,866.87
tblWater	OutdoorWaterUseRate	0.00	297,870.34

2.0 Emissions Summary

Outdoor Cultivation - Nevada County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	0.9292	0.9292
2	4-1-2019	6-30-2019	0.7043	0.7043
3	7-1-2019	9-30-2019	0.0008	0.0008
		Highest	0.9292	0.9292

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0837	0.0837	0.0000	0.0000	0.0841
Mobile	0.0199	0.1194	0.2038	4.5000e-004	0.0271	6.5000e-004	0.0278	7.2900e-003	6.1000e-004	7.9000e-003	0.0000	41.6186	41.6186	3.0200e-003	0.0000	41.6942
Waste						0.0000	0.0000		0.0000	0.0000	0.0954	0.0000	0.0954	5.6400e-003	0.0000	0.2364
Water						0.0000	0.0000		0.0000	0.0000	0.0282	0.4432	0.4714	2.9200e-003	7.0000e-005	0.5659
Total	0.0199	0.1194	0.2040	4.5000e-004	0.0271	6.5000e-004	0.0278	7.2900e-003	6.1000e-004	7.9000e-003	0.1236	42.1459	42.2695	0.0116	7.0000e-005	42.5809

Outdoor Cultivation - Nevada County, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0837	0.0837	0.0000	0.0000	0.0841
Mobile	0.0199	0.1194	0.2038	4.5000e-004	0.0271	6.5000e-004	0.0278	7.2900e-003	6.1000e-004	7.9000e-003	0.0000	41.6186	41.6186	3.0200e-003	0.0000	41.6942
Waste						0.0000	0.0000		0.0000	0.0000	0.0954	0.0000	0.0954	5.6400e-003	0.0000	0.2364
Water						0.0000	0.0000		0.0000	0.0000	0.0282	0.4432	0.4714	2.9200e-003	7.0000e-005	0.5659
Total	0.0199	0.1194	0.2040	4.5000e-004	0.0271	6.5000e-004	0.0278	7.2900e-003	6.1000e-004	7.9000e-003	0.1236	42.1459	42.2695	0.0116	7.0000e-005	42.5809

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Outdoor Cultivation - Nevada County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2; Non-Residential Outdoor: 1; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Outdoor Cultivation - Nevada County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0903	0.0120	0.1023	0.0497	0.0110	0.0607	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410
Total	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0352	0.0120	0.0472	0.0194	0.0110	0.0304	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410
Total	4.6000e-004	4.1000e-004	3.6000e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6403	0.6403	3.0000e-005	0.0000	0.6410

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0177	0.0000	0.0177	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1417	0.0815	1.5000e-004		6.9900e-003	6.9900e-003		6.4300e-003	6.4300e-003	0.0000	13.3211	13.3211	4.2100e-003	0.0000	13.4265
Total	0.0129	0.1417	0.0815	1.5000e-004	0.0407	6.9900e-003	0.0477	0.0177	6.4300e-003	0.0241	0.0000	13.3211	13.3211	4.2100e-003	0.0000	13.4265

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	3.4000e-004	3.0000e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5336	0.5336	2.0000e-005	0.0000	0.5342
Total	3.8000e-004	3.4000e-004	3.0000e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5336	0.5336	2.0000e-005	0.0000	0.5342

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0159	0.0000	0.0159	6.9000e-003	0.0000	6.9000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1417	0.0815	1.5000e-004		6.9900e-003	6.9900e-003		6.4300e-003	6.4300e-003	0.0000	13.3211	13.3211	4.2100e-003	0.0000	13.4265
Total	0.0129	0.1417	0.0815	1.5000e-004	0.0159	6.9900e-003	0.0229	6.9000e-003	6.4300e-003	0.0133	0.0000	13.3211	13.3211	4.2100e-003	0.0000	13.4265

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	3.4000e-004	3.0000e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5336	0.5336	2.0000e-005	0.0000	0.5342
Total	3.8000e-004	3.4000e-004	3.0000e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5336	0.5336	2.0000e-005	0.0000	0.5342

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5521	117.5521	0.0286	0.0000	118.2680
Total	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5521	117.5521	0.0286	0.0000	118.2680

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5900e-003	4.1400e-003	0.0360	7.0000e-005	7.0400e-003	5.0000e-005	7.0900e-003	1.8700e-003	5.0000e-005	1.9200e-003	0.0000	6.4030	6.4030	2.8000e-004	0.0000	6.4100
Total	4.5900e-003	4.1400e-003	0.0360	7.0000e-005	7.0400e-003	5.0000e-005	7.0900e-003	1.8700e-003	5.0000e-005	1.9200e-003	0.0000	6.4030	6.4030	2.8000e-004	0.0000	6.4100

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5520	117.5520	0.0286	0.0000	118.2679
Total	0.1181	1.0539	0.8582	1.3500e-003		0.0645	0.0645		0.0606	0.0606	0.0000	117.5520	117.5520	0.0286	0.0000	118.2679

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5900e-003	4.1400e-003	0.0360	7.0000e-005	7.0400e-003	5.0000e-005	7.0900e-003	1.8700e-003	5.0000e-005	1.9200e-003	0.0000	6.4030	6.4030	2.8000e-004	0.0000	6.4100
Total	4.5900e-003	4.1400e-003	0.0360	7.0000e-005	7.0400e-003	5.0000e-005	7.0900e-003	1.8700e-003	5.0000e-005	1.9200e-003	0.0000	6.4030	6.4030	2.8000e-004	0.0000	6.4100

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593

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3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671
Total	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.6400e-003	0.0381	0.0367	6.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	5.1188	5.1188	1.6200e-003	0.0000	5.1593

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3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671
Total	1.9000e-004	1.7000e-004	1.5000e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2668	0.2668	1.0000e-005	0.0000	0.2671

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	6.9000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

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3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534
Total	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	6.9000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

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3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534
Total	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0534	0.0534	0.0000	0.0000	0.0534

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Outdoor Cultivation - Nevada County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0199	0.1194	0.2038	4.5000e-004	0.0271	6.5000e-004	0.0278	7.2900e-003	6.1000e-004	7.9000e-003	0.0000	41.6186	41.6186	3.0200e-003	0.0000	41.6942
Unmitigated	0.0199	0.1194	0.2038	4.5000e-004	0.0271	6.5000e-004	0.0278	7.2900e-003	6.1000e-004	7.9000e-003	0.0000	41.6186	41.6186	3.0200e-003	0.0000	41.6942

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	40.20	40.20	40.20	73,164	73,164
Total	40.20	40.20	40.20	73,164	73,164

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Outdoor Cultivation - Nevada County, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0663	0.0663	0.0000	0.0000	0.0666
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0663	0.0663	0.0000	0.0000	0.0666
NaturalGas Mitigated	0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0174	0.0174	0.0000	0.0000	0.0175
NaturalGas Unmitigated	0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0174	0.0174	0.0000	0.0000	0.0175

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	326.25	0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0174	0.0174	0.0000	0.0000	0.0175
Total		0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0174	0.0174	0.0000	0.0000	0.0175

Outdoor Cultivation - Nevada County, Annual

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	326.25	0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0174	0.0174	0.0000	0.0000	0.0175
Total		0.0000	2.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0174	0.0174	0.0000	0.0000	0.0175

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	228	0.0663	0.0000	0.0000	0.0666
Total		0.0663	0.0000	0.0000	0.0666

Outdoor Cultivation - Nevada County, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	228	0.0663	0.0000	0.0000	0.0666
Total		0.0663	0.0000	0.0000	0.0666

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Unmitigated	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

Outdoor Cultivation - Nevada County, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Total	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Total	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

7.0 Water Detail

Outdoor Cultivation - Nevada County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4714	2.9200e-003	7.0000e-005	0.5659
Unmitigated	0.4714	2.9200e-003	7.0000e-005	0.5659

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0.0888669 / 0.29787	0.4714	2.9200e-003	7.0000e-005	0.5659
Total		0.4714	2.9200e-003	7.0000e-005	0.5659

Outdoor Cultivation - Nevada County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0.0888669 / 0.29787	0.4714	2.9200e-003	7.0000e-005	0.5659
Total		0.4714	2.9200e-003	7.0000e-005	0.5659

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0954	5.6400e-003	0.0000	0.2364
Unmitigated	0.0954	5.6400e-003	0.0000	0.2364

Outdoor Cultivation - Nevada County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0.47	0.0954	5.6400e-003	0.0000	0.2364
Total		0.0954	5.6400e-003	0.0000	0.2364

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0.47	0.0954	5.6400e-003	0.0000	0.2364
Total		0.0954	5.6400e-003	0.0000	0.2364

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Outdoor Cultivation - Nevada County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Outdoor Cultivation - Nevada County, Summer

Outdoor Cultivation
Nevada County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	20.00	User Defined Unit	20.00	1.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Outdoor Cultivation - Nevada County, Summer

Project Characteristics -

Land Use - 20 acre per outdoor cultivation activity

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Estimated construction workers of 2.6 workers per peice of equipment

Grading - x

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Energy Use - Energy use for a 500 sf office shop building on a 10,000 sf outdoor cultivation site

Water And Wastewater - Interior from heavy industrial rate for 500 sf office shop building; exterior rate for a 0.25 acre gold course

Solid Waste - Disposal rate for 500 sf office

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblEnergyUse	LightingElect	0.00	73.00
tblEnergyUse	NT24E	0.00	89.50
tblEnergyUse	NT24NG	0.00	7.00
tblEnergyUse	T24E	0.00	65.50
tblEnergyUse	T24NG	0.00	319.25
tblGrading	AcresOfGrading	5.00	20.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblLandUse	LotAcreage	0.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

Outdoor Cultivation - Nevada County, Summer

tblSolidWaste	SolidWasteGenerationRate	0.00	0.47
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CC_TTP	0.00	28.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CNW_TTP	0.00	13.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	CW_TTP	0.00	59.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	2.01
tblVehicleTrips	SU_TR	0.00	2.01
tblVehicleTrips	WD_TR	0.00	2.01
tblWater	IndoorWaterUseRate	0.00	88,866.87
tblWater	OutdoorWaterUseRate	0.00	297,870.34

2.0 Emissions Summary

Outdoor Cultivation - Nevada County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Energy	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Mobile	0.1257	0.6317	1.0625	2.6100e-003	0.1562	3.5200e-003	0.1597	0.0418	3.3400e-003	0.0452		264.2932	264.2932	0.0177		264.7357
Total	0.1259	0.6318	1.0647	2.6100e-003	0.1562	3.5400e-003	0.1597	0.0418	3.3600e-003	0.0452		264.4027	264.4027	0.0177	0.0000	264.8461

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Energy	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Mobile	0.1257	0.6317	1.0625	2.6100e-003	0.1562	3.5200e-003	0.1597	0.0418	3.3400e-003	0.0452		264.2932	264.2932	0.0177		264.7357
Total	0.1259	0.6318	1.0647	2.6100e-003	0.1562	3.5400e-003	0.1597	0.0418	3.3600e-003	0.0452		264.4027	264.4027	0.0177	0.0000	264.8461

Outdoor Cultivation - Nevada County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2; Non-Residential Outdoor: 1; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Outdoor Cultivation - Nevada County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Outdoor Cultivation - Nevada County, Summer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Outdoor Cultivation - Nevada County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	7.0458	2.3904	9.4362	3.8730	2.1991	6.0721	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Outdoor Cultivation - Nevada County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1431	0.0000	8.1431	3.5393	0.0000	3.5393			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856		2,936.8068	2,936.8068	0.9292		2,960.0361
Total	2.5805	28.3480	16.2934	0.0297	8.1431	1.3974	9.5405	3.5393	1.2856	4.8248		2,936.8068	2,936.8068	0.9292		2,960.0361

Outdoor Cultivation - Nevada County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1758	0.0000	3.1758	1.3803	0.0000	1.3803			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361
Total	2.5805	28.3480	16.2934	0.0297	3.1758	1.3974	4.5732	1.3803	1.2856	2.6659	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361

Outdoor Cultivation - Nevada County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Outdoor Cultivation - Nevada County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Outdoor Cultivation - Nevada County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036
Total	0.0979	0.0689	0.7411	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.1427	151.1427	6.4400e-003		151.3036

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548

Outdoor Cultivation - Nevada County, Summer

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

Outdoor Cultivation - Nevada County, Summer

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863
Total	0.0816	0.0574	0.6176	1.2700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		125.9522	125.9522	5.3600e-003		126.0863

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.9500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	0.2734	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Outdoor Cultivation - Nevada County, Summer

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173
Total	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.9500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	0.2734	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Outdoor Cultivation - Nevada County, Summer

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173
Total	0.0163	0.0115	0.1235	2.5000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.1904	25.1904	1.0700e-003		25.2173

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Outdoor Cultivation - Nevada County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1257	0.6317	1.0625	2.6100e-003	0.1562	3.5200e-003	0.1597	0.0418	3.3400e-003	0.0452		264.2932	264.2932	0.0177		264.7357
Unmitigated	0.1257	0.6317	1.0625	2.6100e-003	0.1562	3.5200e-003	0.1597	0.0418	3.3400e-003	0.0452		264.2932	264.2932	0.0177		264.7357

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	40.20	40.20	40.20	73,164	73,164
Total	40.20	40.20	40.20	73,164	73,164

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Outdoor Cultivation - Nevada County, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
NaturalGas Unmitigated	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0.893836	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Total		1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058

Outdoor Cultivation - Nevada County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0.000893836	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Total		1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Unmitigated	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003

Outdoor Cultivation - Nevada County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Total	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Total	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003

7.0 Water Detail

Outdoor Cultivation - Nevada County, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Outdoor Cultivation - Nevada County, Winter

Outdoor Cultivation
Nevada County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	20.00	User Defined Unit	20.00	1.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	80
Climate Zone	3			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Outdoor Cultivation - Nevada County, Winter

Project Characteristics -

Land Use - 20 acre per outdoor cultivation activity

Construction Phase - Estimated 6 month construction schedule

Trips and VMT - Estimated construction workers of 2.6 workers per peice of equipment

Grading - x

Vehicle Trips - Trip rate based on traffic study; County average trip distance = 5 miles

Energy Use - Energy use for a 500 sf office shop building on a 10,000 sf outdoor cultivation site

Water And Wastewater - Interior from heavy industrial rate for 500 sf office shop building; exterior rate for a 0.25 acre gold course

Solid Waste - Disposal rate for 500 sf office

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	300.00	100.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	5.00
tblEnergyUse	LightingElect	0.00	73.00
tblEnergyUse	NT24E	0.00	89.50
tblEnergyUse	NT24NG	0.00	7.00
tblEnergyUse	T24E	0.00	65.50
tblEnergyUse	T24NG	0.00	319.25
tblGrading	AcresOfGrading	5.00	20.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblLandUse	LotAcreage	0.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

Outdoor Cultivation - Nevada County, Winter

tblSolidWaste	SolidWasteGenerationRate	0.00	0.47
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	3.00
tblVehicleTrips	CC_TL	7.30	5.00
tblVehicleTrips	CC_TTP	0.00	28.00
tblVehicleTrips	CNW_TL	7.30	5.00
tblVehicleTrips	CNW_TTP	0.00	13.00
tblVehicleTrips	CW_TL	9.50	5.00
tblVehicleTrips	CW_TTP	0.00	59.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	2.01
tblVehicleTrips	SU_TR	0.00	2.01
tblVehicleTrips	WD_TR	0.00	2.01
tblWater	IndoorWaterUseRate	0.00	88,866.87
tblWater	OutdoorWaterUseRate	0.00	297,870.34

2.0 Emissions Summary

Outdoor Cultivation - Nevada County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Energy	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Mobile	0.1092	0.6634	1.1914	2.4400e-003	0.1562	3.6100e-003	0.1598	0.0418	3.4100e-003	0.0452		247.1278	247.1278	0.0192		247.6072
Total	0.1094	0.6635	1.1936	2.4400e-003	0.1562	3.6300e-003	0.1598	0.0418	3.4300e-003	0.0453		247.2373	247.2373	0.0192	0.0000	247.7176

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Energy	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Mobile	0.1092	0.6634	1.1914	2.4400e-003	0.1562	3.6100e-003	0.1598	0.0418	3.4100e-003	0.0452		247.1278	247.1278	0.0192		247.6072
Total	0.1094	0.6635	1.1936	2.4400e-003	0.1562	3.6300e-003	0.1598	0.0418	3.4300e-003	0.0453		247.2373	247.2373	0.0192	0.0000	247.7176

Outdoor Cultivation - Nevada County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	1/28/2019	5	10	
3	Building Construction	Building Construction	1/29/2019	6/17/2019	5	100	
4	Paving	Paving	6/18/2019	6/24/2019	5	5	
5	Architectural Coating	Architectural Coating	6/25/2019	7/1/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2; Non-Residential Outdoor: 1; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Outdoor Cultivation - Nevada County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Outdoor Cultivation - Nevada County, Winter

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Outdoor Cultivation - Nevada County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	7.0458	2.3904	9.4362	3.8730	2.1991	6.0721	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Outdoor Cultivation - Nevada County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1431	0.0000	8.1431	3.5393	0.0000	3.5393			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856		2,936.8068	2,936.8068	0.9292		2,960.0361
Total	2.5805	28.3480	16.2934	0.0297	8.1431	1.3974	9.5405	3.5393	1.2856	4.8248		2,936.8068	2,936.8068	0.9292		2,960.0361

Outdoor Cultivation - Nevada County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1758	0.0000	3.1758	1.3803	0.0000	1.3803			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361
Total	2.5805	28.3480	16.2934	0.0297	3.1758	1.3974	4.5732	1.3803	1.2856	2.6659	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361

Outdoor Cultivation - Nevada County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Outdoor Cultivation - Nevada County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Outdoor Cultivation - Nevada County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128
Total	0.1006	0.0903	0.7405	1.4000e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.9573	138.9573	6.2200e-003		139.1128

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548

Outdoor Cultivation - Nevada County, Winter

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

Outdoor Cultivation - Nevada County, Winter

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274
Total	0.0838	0.0753	0.6171	1.1700e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7977	115.7977	5.1800e-003		115.9274

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.9500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	0.2734	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Outdoor Cultivation - Nevada County, Winter

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855
Total	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.9500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	0.2734	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Outdoor Cultivation - Nevada County, Winter

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855
Total	0.0168	0.0151	0.1234	2.3000e-004	0.0246	1.8000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.1596	23.1596	1.0400e-003		23.1855

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Outdoor Cultivation - Nevada County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1092	0.6634	1.1914	2.4400e-003	0.1562	3.6100e-003	0.1598	0.0418	3.4100e-003	0.0452		247.1278	247.1278	0.0192		247.6072
Unmitigated	0.1092	0.6634	1.1914	2.4400e-003	0.1562	3.6100e-003	0.1598	0.0418	3.4100e-003	0.0452		247.1278	247.1278	0.0192		247.6072

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	40.20	40.20	40.20	73,164	73,164
Total	40.20	40.20	40.20	73,164	73,164

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	5.00	5.00	5.00	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.415262	0.045861	0.246848	0.151160	0.044590	0.007740	0.013902	0.062897	0.001775	0.000745	0.006539	0.000588	0.002093

5.0 Energy Detail

Historical Energy Use: N

Outdoor Cultivation - Nevada County, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
NaturalGas Unmitigated	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0.893836	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Total		1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058

Outdoor Cultivation - Nevada County, Winter

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0.000893836	1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058
Total		1.0000e-005	9.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		0.1052	0.1052	0.0000	0.0000	0.1058

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Unmitigated	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003

Outdoor Cultivation - Nevada County, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Total	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0000e-005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003
Total	2.3000e-004	2.0000e-005	2.0600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6700e-003

7.0 Water Detail

Outdoor Cultivation - Nevada County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Appendix C:

Biological Resources

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US Fish and Wildlife Service
Reno Fish and Wildlife Office Letter

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301
<http://www.fws.gov/nevada/>

In Reply Refer To:
Consultation Code: 08ENVD00-2018-SLI-0820
Event Code: 08ENVD00-2018-E-01913
Project Name: Nevada County Cannabis Ordinance

September 13, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list indicates threatened, endangered, proposed, and candidate species and designated or proposed critical habitat that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (ESA, 16 U.S.C. 1531 *et seq.*), for projects that are authorized, funded, or carried out by a Federal agency. Candidate species have no protection under the ESA but are included for consideration because they could be listed prior to the completion of your project. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions. For additional information regarding species that may be found in the proposed project area, visit <http://www.fws.gov/nevada/es/ipac.html>.

The purpose of the ESA is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or

designated or proposed critical habitat. Guidelines for preparing a Biological Assessment can be found at: http://www.fws.gov/midwest/endangered/section7/ba_guide.html.

If a Federal action agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this species list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally listed, proposed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally, as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation, for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the attached list.

The Nevada Fish and Wildlife Office (NFWO) no longer provides species of concern lists. Most of these species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada (At-Risk list) maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for at-risk species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a list of at-risk species by county, visit Heritage's website (<http://heritage.nv.gov>). For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from the website (http://heritage.nv.gov/get_data) or by contacting the Administrator of Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the ESA. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (<http://www.leg.state.nv.us/NAC/NAC-503.html>). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (NDOW) to take, or possess any parts of protected fish and wildlife species. Please visit <http://www.ndow.org> or contact NDOW in northern Nevada (775) 688-1500, in southern Nevada (702) 486-5127, or in eastern Nevada (775) 777-2300.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Service's wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

The Service's Pacific Southwest Region developed the *Interim Guidelines for the Development of a Project Specific Avian and Bat Protection Plan for Wind Energy Facilities* (Interim Guidelines). This document provides energy facility developers with a tool for assessing the risk of potential impacts to wildlife resources and delineates how best to design and operate a bird- and bat-friendly wind facility. These Interim Guidelines are available upon request from the NFWO. The intent of a Bird and Bat Conservation Strategy is to conserve wildlife resources while supporting project developers through: (1) establishing project development in an adaptive management framework; (2) identifying proper siting and project design strategies; (3) designing and implementing pre-construction surveys; (4) implementing appropriate conservation measures for each development phase; (5) designing and implementing appropriate post-construction monitoring strategies; (6) using post-construction studies to better understand the dynamics of mortality reduction (*e.g.*, changes in blade cut-in speed, assessments of blade “feathering” success, and studies on the effects of visual and acoustic deterrents) including efforts tied into Before-After/Control-Impact analysis; and (7) conducting a thorough risk assessment and validation leading to adjustments in management and mitigation actions.

The template and recommendations set forth in the Interim Guidelines were based upon the Avian Powerline Interaction Committee's Avian Protection Plan template (<http://www.aplic.org/>) developed for electric utilities and modified accordingly to address the unique concerns of wind energy facilities. These recommendations are also consistent with the Service's wind energy guidelines. We recommend contacting us as early as possible in the planning process to discuss the need and process for developing a site-specific Bird and Bat Conservation Strategy.

The Service has also developed guidance regarding wind power development in relation to prairie grouse leks (sage-grouse are included in this). This document can be found at: http://www.fws.gov/southwest/es/Oklahoma/documents/te_species/wind%20power/prairie%20grouse%20lek%20mile%20public.pdf.

Migratory Birds are a Service Trust Resource. Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918, as amended (MBTA; 16 U.S.C. 703 *et seq.*), we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to

avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Guidance for minimizing impacts to migratory birds for projects involving communications towers (*e.g.*, cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

If wetlands, springs, or streams are known to occur in the project area or are present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section regarding the possible need for a permit. For projects located in northern Nevada (Carson City, Churchill, Douglas, Elko, Esmeralda, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, and Washoe Counties) contact the Reno Regulatory Office at 300 Booth Street, Room 3060, Reno, Nevada 89509, (775) 784-5304; in southern Nevada (Clark, Lincoln, Nye, and White Pine Counties) contact the St. George Regulatory Office at 321 North Mall Drive, Suite L-101, St. George, Utah 84790-7314, (435) 986-3979; or in California along the eastern Sierra contact the Sacramento Regulatory Office at 650 Capitol Mall, Suite 5-200, Sacramento, California 95814, (916) 557-5250.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

The table below outlines lead FWS field offices by county and land ownership/project type. Please refer to this table when you are ready to coordinate (including requests for section 7 consultation) with the field office corresponding to your project, and send any documentation regarding your project to that corresponding office. Therefore, the lead FWS field office may not be the office listed above in the letterhead.

Lead FWS offices by County and Ownership/Program

County	Ownership/Program	Species	Office Lead*
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Alameda	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Alameda	All ownerships but tidal/estuarine	All	SFWO
Alpine	Humboldt Toiyabe National Forest	All	RFWO
Alpine	Lake Tahoe Basin Management Unit	All	RFWO
Alpine	Stanislaus National Forest	All	SFWO
Alpine	El Dorado National Forest	All	SFWO
Colusa	Mendocino National Forest	All	AFWO
Colusa	Other	All	By jurisdiction (see map)
Contra Costa	Legal Delta (Excluding ECCHCP)	All	BDFWO
Contra Costa	Antioch Dunes NWR	All	BDFWO
Contra Costa	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Contra Costa	All ownerships but tidal/estuarine	All	SFWO
Del Norte	All	All	AFWO
El Dorado	El Dorado National Forest	All	SFWO
El Dorado	LakeTahoe Basin Management Unit		RFWO
Glenn	Mendocino National Forest	All	AFWO
Glenn	Other	All	By jurisdiction (see map)
Humboldt	All except Shasta Trinity National Forest	All	AFWO

Humboldt	Shasta Trinity National Forest	All	YFWO
Lake	Mendocino National Forest	All	AFWO
Lake	Other	All	By jurisdiction (see map)
Lassen	Modoc National Forest	All	KFWO
Lassen	Lassen National Forest	All	SFWO
Lassen	Toiyabe National Forest	All	RFWO
Lassen	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Lassen	BLM Alturas Resource Area	All	KFWO
Lassen	Lassen Volcanic National Park	All (includes Eagle Lake trout on all ownerships)	SFWO
Lassen	All other ownerships	All	By jurisdiction (see map)
Marin	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Marin	All ownerships but tidal/estuarine	All	SFWO
Mendocino	Russian River watershed	All	SFWO
Mendocino	All except Russian River watershed	All	AFWO
Modoc	Modoc National Forest	All	KFWO
Modoc	BLM Alturas Resource Area	All	KFWO
Modoc	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Modoc	BLM Surprise and Eagle Lake Resource Areas	All	RFWO

Modoc	All other ownerships	All	By jurisdiction (See map)
Mono	Inyo National Forest	All	RFWO
Mono	Humboldt Toiyabe National Forest	All	RFWO
Napa	All ownerships but tidal/estuarine	All	SFWO
Napa	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Nevada	Humboldt Toiyabe National Forest	All	RFWO
Nevada	All other ownerships	All	By jurisdiction (See map)
Placer	Lake Tahoe Basin Management Unit	All	RFWO
Placer	All other ownerships	All	SFWO
Sacramento	Legal Delta	Delta Smelt	BDFWO
Sacramento	Other	All	By jurisdiction (see map)
San Francisco	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Francisco	All ownerships but tidal/estuarine	All	SFWO
San Mateo	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Mateo	All ownerships but tidal/estuarine	All	SFWO
San Joaquin	Legal Delta excluding San Joaquin HCP	All	BDFWO

San Joaquin	Other	All	SFWO
Santa Clara	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
Santa Clara	All ownerships but tidal/estuarine	All	SFWO
Shasta	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Shasta	Hat Creek Ranger District	All	SFWO
Shasta	Bureau of Reclamation (Central Valley Project)	All	BDFWO
Shasta	Whiskeytown National Recreation Area	All	YFWO
Shasta	BLM Alturas Resource Area	All	KFWO
Shasta	Caltrans	By jurisdiction	SFWO/AFWO
Shasta	Ahjumawi Lava Springs State Park	Shasta crayfish	SFWO
Shasta	All other ownerships	All	By jurisdiction (see map)
Shasta	Natural Resource Damage Assessment, all lands	All	SFWO/BDFWO
Sierra	Humboldt Toiyabe National Forest	All	RFWO
Sierra	All other ownerships	All	SFWO
Siskiyou	Klamath National Forest (except Ukonom District)	All	YFWO
Siskiyou	Six Rivers National Forest and Ukonom District	All	AFWO
Siskiyou	Shasta Trinity National Forest	All	YFWO

Siskiyou	Lassen National Forest	All	SFWO
Siskiyou	Modoc National Forest	All	KFWO
Siskiyou	Lava Beds National Volcanic Monument	All	KFWO
Siskiyou	BLM Alturas Resource Area	All	KFWO
Siskiyou	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Siskiyou	All other ownerships	All	By jurisdiction (see map)
Solano	Suisun Marsh	All	BDFWO
Solano	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Solano	All ownerships but tidal/estuarine	All	SFWO
Solano	Other	All	By jurisdiction (see map)
Sonoma	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Sonoma	All ownerships but tidal/estuarine	All	SFWO
Tehama	Mendocino National Forest	All	AFWO
Tehama	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Tehama	All other ownerships	All	By jurisdiction (see map)
Trinity	BLM	All	AFWO
Trinity	Six Rivers National Forest	All	AFWO
Trinity	Shasta Trinity National Forest	All	YFWO

Trinity	Mendocino National Forest	All	AFWO
Trinity	BIA (Tribal Trust Lands)	All	AFWO
Trinity	County Government	All	AFWO
Trinity	All other ownerships	All	By jurisdiction (See map)
Yolo	Yolo Bypass	All	BDFWO
Yolo	Other	All	By jurisdiction (see map)
All	FERC-ESA	All	By jurisdiction (see map)
All	FERC-ESA	Shasta crayfish	SFWO
All	FERC-Relicensing (non-ESA)	All	BDFWO

***Office Leads:**

AFWO=Arcata Fish and Wildlife Office

BDFWO=Bay Delta Fish and Wildlife Office

KFWO=Klamath Falls Fish and Wildlife Office

RFWO=Reno Fish and Wildlife Office

YFWO=Yreka Fish and Wildlife Office

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Reno Fish And Wildlife Office

1340 Financial Boulevard, Suite 234

Reno, NV 89502-7147

(775) 861-6300

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ENVD00-2018-SLI-0820

Event Code: 08ENVD00-2018-E-01913

Project Name: Nevada County Cannabis Ordinance

Project Type: Regulation Promulgation

Project Description: The proposed project is located in the unincorporated areas of Nevada County (County). The County is bounded by Sierra County and Yuba County on the north, Yuba County on the west, Placer County on the south, and the state of Nevada on the east. Nevada County's total land area is 958 square miles, of which approximately 70% is privately owned and approximately 30% is public lands. Development within Nevada County consists of a mixed land use pattern and includes residential, commercial, industrial, agricultural, and public uses. Nevada County consists of numerous urbanized areas as well as rural residential, commercial, industrial, open space, and many areas used for agriculture. There are three incorporated cities within the County including Grass Valley, Nevada City, and Truckee. The proposed Nevada County Commercial Cannabis Cultivation Ordinance would not apply to these incorporated areas.

The Nevada County Commercial Cannabis Cultivation Ordinance is intended to detail County regulations consistent with state law to enable a structured and logical management procedure for the cultivation of cannabis within all unincorporated areas within the County. Under the proposed project there will be a three-tier system for 1) personal use; 2) commercial use, and 3) non-remuneration cultivation use. Personal use cultivation, up to maximum of six plants would be allowed in the R-1 (Single Family); R-2 (Medium Density); R-3 (High Density); R-A (Residential Agriculture); General Agricultural (AG); Agriculture Exclusive (AE); Forest (FR); and the Timber Production Zone (TPZ), zones. Commercial cannabis cultivation would be prohibited in allowed in R-1, R-2, R-3, and TPZ zones, and allowed in three zones AG, AE; and FR (Forest) zones. Commercial cannabis cultivation, would be prohibited on less than 2.0 acre parcels, limited to 2,500 square feet (sf) on 5.0 to 9.99 acre parcels, 5,000 sf on 10.00 to 19.99 acre parcels, and a maximum of 10,000 sf on parcels 20 acres or greater.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.267135752592196N121.01046328139441W>



Counties: Nevada, CA | Placer, CA | Sierra, CA | Yuba, CA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
North American Wolverine <i>Gulo gulo luscus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Fishes

NAME	STATUS
Cui-ui <i>Chasmistes cujus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/456	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/1626</p>	Breeds Jan 1 to Aug 31
<p>Cassin's Finch <i>Carpodacus cassinii</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9462</p>	Breeds May 15 to Jul 15

NAME	BREEDING SEASON
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8832	Breeds May 1 to Jul 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for

that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

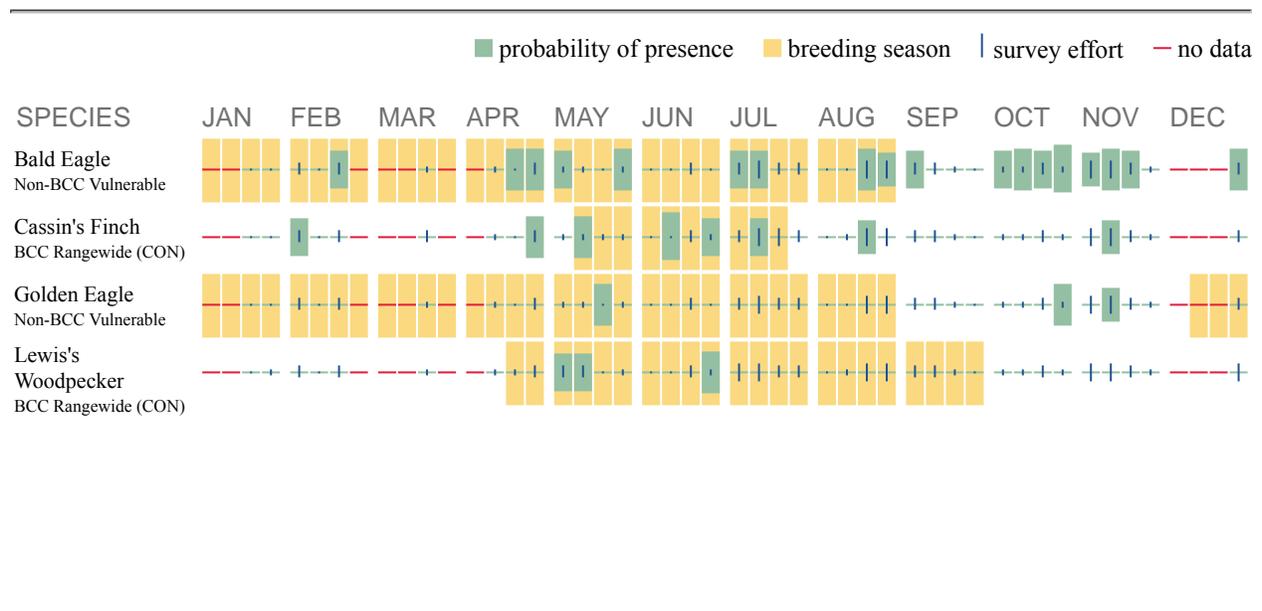
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- [PEM1C](#)
- [PEM1B](#)
- [PEM1A](#)

FRESHWATER FORESTED/SHRUB WETLAND

- [PSSA](#)
- [PSSC](#)
- [PFOA](#)
- [PFOC](#)
- [PSSAh](#)

FRESHWATER POND

- [PABH](#)
- [PUBH](#)

LAKE

- [L1UBHh](#)

RIVERINE

- [R3USA](#)
 - [R4SBC](#)
 - [R5UBF](#)
 - [R3UBH](#)
 - [R4SBCx](#)
 - [R4SBA](#)
 - [R3USC](#)
 - [R3RBH](#)
 - [R5UBFx](#)
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US Fish and Wildlife Service
Sacramento Fish and Wildlife Office Letter

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2018-SLI-3194
Event Code: 08ESMF00-2018-E-09615
Project Name: Nevada County Cannabis Ordinance

September 13, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Reno Fish And Wildlife Office

1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

Project Summary

Consultation Code: 08ESMF00-2018-SLI-3194

Event Code: 08ESMF00-2018-E-09615

Project Name: Nevada County Cannabis Ordinance

Project Type: Regulation Promulgation

Project Description: The proposed project is located in the unincorporated areas of Nevada County (County). The County is bounded by Sierra County and Yuba County on the north, Yuba County on the west, Placer County on the south, and the state of Nevada on the east. Nevada County's total land area is 958 square miles, of which approximately 70% is privately owned and approximately 30% is public lands. Development within Nevada County consists of a mixed land use pattern and includes residential, commercial, industrial, agricultural, and public uses. Nevada County consists of numerous urbanized areas as well as rural residential, commercial, industrial, open space, and many areas used for agriculture. There are three incorporated cities within the County including Grass Valley, Nevada City, and Truckee. The proposed Nevada County Commercial Cannabis Cultivation Ordinance would not apply to these incorporated areas.

The Nevada County Commercial Cannabis Cultivation Ordinance is intended to detail County regulations consistent with state law to enable a structured and logical management procedure for the cultivation of cannabis within all unincorporated areas within the County. Under the proposed project there will be a three-tier system for 1) personal use; 2) commercial use, and 3) non-remuneration cultivation use. Personal use cultivation, up to maximum of six plants would be allowed in the R-1 (Single Family); R-2 (Medium Density); R-3 (High Density); R-A (Residential Agriculture); General Agricultural (AG); Agriculture Exclusive (AE); Forest (FR); and the Timber Production Zone (TPZ), zones. Commercial cannabis cultivation would be prohibited in allowed in R-1, R-2, R-3, and TPZ zones, and allowed in three zones AG, AE; and FR (Forest) zones. Commercial cannabis cultivation, would be prohibited on less than 2.0 acre parcels, limited to 2,500 square feet (sf) on 5.0 to 9.99 acre parcels, 5,000 sf on 10.00 to 19.99 acre parcels, and a maximum of 10,000 sf on parcels 20 acres or greater.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.267135752592196N121.01046328139441W>



Counties: Nevada, CA | Placer, CA | Sierra, CA | Yuba, CA

Endangered Species Act Species

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
Sierra Nevada Yellow-legged Frog <i>Rana sierrae</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9529	Endangered

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Lahontan Cutthroat Trout <i>Oncorhynchus clarkii henshawi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3964	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850 Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Layne's Butterweed <i>Senecio layneae</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4062	Threatened
Pine Hill Flannelbush <i>Fremontodendron californicum ssp. decumbens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4818	Endangered
Stebbins' Morning-glory <i>Calystegia stebbinsii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3991	Endangered

Critical habitats

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> https://ecos.fws.gov/ecp/species/2891#crithab	Final
Sierra Nevada Yellow-legged Frog <i>Rana sierrae</i> https://ecos.fws.gov/ecp/species/9529#crithab	Final

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California Natural Diversity Database

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Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: County IS (Nevada)

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01085	<i>Ambystoma macrodactylum sigillatum</i> southern long-toed salamander	None	None	G5T4	S3	SSC
AAABH01022	<i>Rana draytonii</i> California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01050	<i>Rana boylei</i> foothill yellow-legged frog	None	Candidate Threatened	G3	S3	SSC
AAABH01340	<i>Rana sierrae</i> Sierra Nevada yellow-legged frog	Endangered	Threatened	G1	S1	WL
ABNGA04010	<i>Ardea herodias</i> great blue heron	None	None	G5	S4	
ABNKC01010	<i>Pandion haliaetus</i> osprey	None	None	G5	S4	WL
ABNKC10010	<i>Haliaeetus leucocephalus</i> bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC12040	<i>Accipiter cooperii</i> Cooper's hawk	None	None	G5	S4	WL
ABNKC12060	<i>Accipiter gentilis</i> northern goshawk	None	None	G5	S3	SSC
ABNME03041	<i>Laterallus jamaicensis coturniculus</i> California black rail	None	Threatened	G3G4T1	S1	FP
ABNSB13010	<i>Asio otus</i> long-eared owl	None	None	G5	S3?	SSC
ABNUA01010	<i>Cypseloides niger</i> black swift	None	None	G4	S2	SSC
ABNYF07090	<i>Picoides arcticus</i> black-backed woodpecker	None	None	G5	S2	
ABPAE33040	<i>Empidonax traillii</i> willow flycatcher	None	Endangered	G5	S1S2	
ABPBX03010	<i>Setophaga petechia</i> yellow warbler	None	None	G5	S3S4	SSC
ABPBX24010	<i>Icteria virens</i> yellow-breasted chat	None	None	G5	S3	SSC
AFCHA0205A	<i>Oncorhynchus tshawytscha pop. 6</i> chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5	S1	
AFCHA02081	<i>Oncorhynchus clarkii henshawi</i> Lahontan cutthroat trout	Threatened	None	G4T3	S2	
AFCHA0209K	<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AMACC01090	<i>Myotis thysanodes</i> fringed myotis	None	None	G4	S3	



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Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC02010	<i>Lasionycteris noctivagans</i> silver-haired bat	None	None	G5	S3S4	
AMACC08010	<i>Corynorhinus townsendii</i> Townsend's big-eared bat	None	None	G3G4	S2	SSC
AMAEA0102H	<i>Ochotona princeps schisticeps</i> gray-headed pika	None	None	G5T2T4	S2S4	
AMAEB03012	<i>Lepus americanus tahoensis</i> Sierra Nevada snowshoe hare	None	None	G5T3T4Q	S2	SSC
AMAF01013	<i>Aplodontia rufa californica</i> Sierra Nevada mountain beaver	None	None	G5T3T4	S2S3	SSC
AMAFJ01010	<i>Erethizon dorsatum</i> North American porcupine	None	None	G5	S3	
AMAJA03012	<i>Vulpes vulpes necator</i> Sierra Nevada red fox	Candidate	Threatened	G5T1T2	S1	
AMAJF01014	<i>Martes caurina sierrae</i> Sierra marten	None	None	G5T3	S3	
AMAJF01021	<i>Pekania pennanti</i> fisher - West Coast DPS	None	Threatened	G5T2T3Q	S2S3	SSC
AMAJF03010	<i>Gulo gulo</i> California wolverine	Proposed Threatened	Threatened	G4	S1	FP
ARAAD02030	<i>Emys marmorata</i> western pond turtle	None	None	G3G4	S3	SSC
ARACF12100	<i>Phrynosoma blainvillii</i> coast horned lizard	None	None	G3G4	S3S4	SSC
CARC2320CA	<i>Great Basin Cutthroat Trout/Paiute Sculpin Stream</i> Great Basin Cutthroat Trout/Paiute Sculpin Stream	None	None	GNR	SNR	
CARC2331CA	<i>Great Basin Sucker/Dace/Redside Stream With Cutthroat Trout</i> Great Basin Sucker/Dace/Redside Stream With Cutthroat Trout	None	None	GNR	SNR	
CTT51120CA	<i>Darlingtonia Seep</i> Darlingtonia Seep	None	None	G4	S3.2	
CTT51200CA	<i>Fen</i> Fen	None	None	G2	S1.2	
IIHYM24250	<i>Bombus occidentalis</i> western bumble bee	None	None	G2G3	S1	
IIHYM24460	<i>Bombus morrisoni</i> Morrison bumble bee	None	None	G4G5	S1S2	
IITRI01050	<i>Lepidostoma ermanae</i> Cold Spring caddisfly	None	None	G1G2	S1S2	
IITRI0X010	<i>Goeracea oregona</i> Sagehen Creek goeracean caddisfly	None	None	G3	S1S2	
IITRI11010	<i>Cryptochia excella</i> Kings Canyon cryptochian caddisfly	None	None	G1G2	S1S2	



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Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
IITRI12010	<i>Ecclisomyia bilera</i> Kings Creek ecclisomyian caddisfly	None	None	G1G2	S1S2	
IITRI77010	<i>Desmona bethula</i> amphibious caddisfly	None	None	G2G3	S2S3	
IMBIV27020	<i>Margaritifera falcata</i> western pearlshell	None	None	G4G5	S1S2	
IMGASC7071	<i>Monadenia mormonum buttoni</i> Button's Sierra sideband	None	None	G2T1	S1S2	
NBHEP2A080	<i>Nardia hiroshii</i> Hiroshi's flapwort	None	None	G5	S1	2B.3
NBMUS13010	<i>Bruchia bolanderi</i> Bolander's bruchia	None	None	G3G4	S3	4.2
NBMUS4L020	<i>Meesia triquetra</i> three-ranked hump moss	None	None	G5	S4	4.2
NBMUS4L030	<i>Meesia uliginosa</i> broad-nerved hump moss	None	None	G5	S3	2B.2
NBMUS4Q022	<i>Mielichhoferia elongata</i> elongate copper moss	None	None	G5	S4	4.3
PDAST0S1S2	<i>Artemisia tripartita ssp. tripartita</i> threetip sagebrush	None	None	G5T4T5	S2	2B.3
PDAST3M2K0	<i>Erigeron miser</i> starved daisy	None	None	G3?	S3?	1B.3
PDBRA270M0	<i>Rorippa subumbellata</i> Tahoe yellow cress	None	Endangered	G1	S1	1B.1
PDBRA2G108	<i>Streptanthus tortuosus ssp. truei</i> True's mountain jewelflower	None	None	G5T1T2	S1S2	1B.1
PDCON040H0	<i>Calystegia stebbinsii</i> Stebbins' morning-glory	Endangered	Endangered	G1	S1	1B.1
PDDRO02010	<i>Drosera anglica</i> English sundew	None	None	G5	S2	2B.3
PDFAB0F120	<i>Astragalus austiniae</i> Austin's astragalus	None	None	G2G3	S2S3	1B.3
PDFAB25101	<i>Lathyrus sulphureus var. argillaceus</i> dubious pea	None	None	G5T1T2	S1S2	3
PDHYD0C4D0	<i>Phacelia stebbinsii</i> Stebbins' phacelia	None	None	G3	S3	1B.2
PDLAM1U0J0	<i>Scutellaria galericulata</i> marsh skullcap	None	None	G5	S2	2B.2
PDMAL110G0	<i>Sidalcea multifida</i> cut-leaf checkerbloom	None	None	G3	S2	2B.3
PDMAL110R0	<i>Sidalcea stipularis</i> Scadden Flat checkerbloom	None	Endangered	G1	S1	1B.1



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Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDONA05053	<i>Clarkia biloba ssp. brandegeae</i> Brandegee's clarkia	None	None	G4G5T4	S4	4.2
PDONA06180	<i>Epilobium howellii</i> subalpine fireweed	None	None	G4	S4	4.3
PDPGN086U9	<i>Eriogonum umbellatum var. torreyanum</i> Donner Pass buckwheat	None	None	G5T2	S2	1B.2
PDPOR030A0	<i>Claytonia megarhiza</i> fell-fields claytonia	None	None	G5	S2	2B.3
PDPOR04020	<i>Lewisia cantelovii</i> Cantelow's lewisia	None	None	G3	S3	1B.2
PDPOR040K0	<i>Lewisia longipetala</i> long-petaled lewisia	None	None	G2	S2	1B.3
PDRHA0C010	<i>Rhamnus alnifolia</i> alder buckthorn	None	None	G5	S3	2B.2
PDROS0X0K0	<i>Ivesia sericoleuca</i> Plumas ivesia	None	None	G2	S2	1B.2
PDSCR1L4Y0	<i>Penstemon personatus</i> closed-throated beardtongue	None	None	G2	S2	1B.2
PDSTE03030	<i>Fremontodendron decumbens</i> Pine Hill flannelbush	Endangered	Rare	G1	S1	1B.2
PDVIO04280	<i>Viola tomentosa</i> felt-leaved violet	None	None	G3	S3	4.2
PMCYP033H0	<i>Carex davyi</i> Davy's sedge	None	None	G3	S3	1B.3
PMCYP03720	<i>Carex lasiocarpa</i> woolly-fruited sedge	None	None	G5	S2	2B.3
PMCYP037K0	<i>Carex limosa</i> mud sedge	None	None	G5	S3	2B.2
PMCYP03M60	<i>Carex xerophila</i> chaparral sedge	None	None	G2	S2	1B.2
PMCYP0N010	<i>Rhynchospora alba</i> white beaked-rush	None	None	G5	S2	2B.2
PMCYP0N080	<i>Rhynchospora capitellata</i> brownish beaked-rush	None	None	G5	S1	2B.2
PMCYP0Q1G0	<i>Schoenoplectus subterminalis</i> water bulrush	None	None	G4G5	S3	2B.3
PMJUN013E0	<i>Juncus digitatus</i> finger rush	None	None	G1	S1	1B.1
PMJUN013J0	<i>Juncus luciensis</i> Santa Lucia dwarf rush	None	None	G3	S3	1B.2
PMLILOV060	<i>Fritillaria eastwoodiae</i> Butte County fritillary	None	None	G3Q	S3	3.2



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PMORC0M050	<i>Corallorhiza trifida</i> northern coralroot	None	None	G5	S1	2B.1
PMPOA4Z310	<i>Poa sierrae</i> Sierra blue grass	None	None	G3	S3	1B.3
PMPOT030V0	<i>Potamogeton praelongus</i> white-stemmed pondweed	None	None	G5	S2	2B.3
PMPOT030Z0	<i>Potamogeton robbinsii</i> Robbins' pondweed	None	None	G5	S3	2B.3
PPLYC03060	<i>Lycopodiella inundata</i> inundated bog-clubmoss	None	None	G5	S1?	2B.2
PPOPH01080	<i>Botrychium lunaria</i> common moonwort	None	None	G5	S2	2B.3
PPOPH010L0	<i>Botrychium crenulatum</i> scalloped moonwort	None	None	G4	S3	2B.2
PPOPH010R0	<i>Botrychium minganense</i> Mingan moonwort	None	None	G4G5	S3	2B.2
PPOPH010S0	<i>Botrychium ascendens</i> upswept moonwort	None	None	G3G4	S2	2B.3

Record Count: 92

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California Native Plant Society
Inventory of Rare and Endangered Plants

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Plant List

Inventory of Rare and Endangered Plants

43 matches found. [Click on scientific name for details](#)

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Nevada County

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Artemisia tripartita ssp. tripartita	threetip sagebrush	Asteraceae	perennial shrub	Aug	2B.3	S2	G5T4T5
Astragalus austinae	Austin's astragalus	Fabaceae	perennial herb	(May)Jul-Sep	1B.3	S2S3	G2G3
Botrychium ascendens	upswept moonwort	Ophioglossaceae	perennial rhizomatous herb	(Jun)Jul-Aug	2B.3	S2	G3G4
Botrychium crenulatum	scalloped moonwort	Ophioglossaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S3	G4
Botrychium lunaria	common moonwort	Ophioglossaceae	perennial rhizomatous herb	Aug	2B.3	S2	G5
Botrychium minganense	Mingan moonwort	Ophioglossaceae	perennial rhizomatous herb	Jul-Sep	2B.2	S3	G4G5
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jul	1B.1	S1	G1
Carex davyi	Davy's sedge	Cyperaceae	perennial herb	May-Aug	1B.3	S3	G3
Carex lasiocarpa	woolly-fruited sedge	Cyperaceae	perennial rhizomatous herb	Jun-Jul	2B.3	S2	G5
Carex limosa	mud sedge	Cyperaceae	perennial rhizomatous herb	Jun-Aug	2B.2	S3	G5
Carex xerophila	chaparral sedge	Cyperaceae	perennial herb	Mar-Jun	1B.2	S2	G2
Claytonia megarhiza	fell-fields claytonia	Montiaceae	perennial herb	Jul-Sep	2B.3	S2	G5
Corallorhiza trifida	northern coralroot	Orchidaceae	perennial rhizomatous herb (achlorophyllous)	Jun-Jul	2B.1	S1	G5
Drosera anglica	English sundew	Droseraceae	perennial herb (carnivorous)	Jun-Sep	2B.3	S2	G5
Epilobium oreganum	Oregon fireweed	Onagraceae	perennial herb	Jun-Sep	1B.2	S2	G2
Erigeron miser	starved daisy	Asteraceae	perennial herb	Jun-Oct	1B.3	S3?	G3?
Eriogonum umbellatum var. torreyanum	Donner Pass buckwheat	Polygonaceae	perennial herb	Jul-Sep	1B.2	S2	G5T2
	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	Apr-Jul	1B.2	S1	G1

<u>Fremontodendron decumbens</u>								
<u>Ivesia sericoleuca</u>	Plumas ivesia	Rosaceae	perennial herb	May-Oct	1B.2	S2	G2	
<u>Juncus digitatus</u>	finger rush	Juncaceae	annual herb	(Apr)May-Jun	1B.1	S1	G1	
<u>Juncus luciensis</u>	Santa Lucia dwarf rush	Juncaceae	annual herb	Apr-Jul	1B.2	S3	G3	
<u>Lewisia cantelovii</u>	Cantelow's lewisia	Montiaceae	perennial herb	May-Oct	1B.2	S3	G3	
<u>Lewisia longipetala</u>	long-petaled lewisia	Montiaceae	perennial herb	Jul-Aug(Sep)	1B.3	S2	G2	
<u>Lycopodiella inundata</u>	inundated bog club-moss	Lycopodiaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S1?	G5	
<u>Meesia longiseta</u>	long seta hump moss	Meesiaceae	moss		2B.3	S2	G5	
<u>Meesia uliginosa</u>	broad-nerved hump moss	Meesiaceae	moss	Jul,Oct	2B.2	S3	G5	
<u>Monardella follettii</u>	Follett's monardella	Lamiaceae	perennial shrub	Jun-Sep	1B.2	S2	G2	
<u>Nardia hiroshii</u>	Hiroshi's flapwort	Jungermanniaceae	liverwort		2B.3	S1	G5	
<u>Penstemon personatus</u>	closed-throated beardtongue	Plantaginaceae	perennial herb	Jun-Sep(Oct)	1B.2	S2	G2	
<u>Phacelia stebbinsii</u>	Stebbins' phacelia	Hydrophyllaceae	annual herb	May-Jul	1B.2	S3	G3	
<u>Poa sierrae</u>	Sierra blue grass	Poaceae	perennial rhizomatous herb	Apr-Jul	1B.3	S3	G3	
<u>Potamogeton praelongus</u>	white-stemmed pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	Jul-Aug	2B.3	S2	G5	
<u>Potamogeton robbinsii</u>	Robbins' pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	Jul-Aug	2B.3	S3	G5	
<u>Rhamnus alnifolia</u>	alder buckthorn	Rhamnaceae	perennial deciduous shrub	May-Jul	2B.2	S3	G5	
<u>Rhynchospora alba</u>	white beaked-rush	Cyperaceae	perennial rhizomatous herb	Jun-Aug	2B.2	S2	G5	
<u>Rhynchospora capitellata</u>	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	2B.2	S1	G5	
<u>Rorippa subumbellata</u>	Tahoe yellow cress	Brassicaceae	perennial rhizomatous herb	May-Sep	1B.1	S1	G1	
<u>Schoenoplectus subterminalis</u>	water bulrush	Cyperaceae	perennial rhizomatous herb (aquatic)	Jun-Aug(Sep)	2B.3	S3	G4G5	
<u>Scutellaria galericulata</u>	marsh skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S2	G5	
<u>Sidalcea stipularis</u>	Scadden Flat checkerbloom	Malvaceae	perennial rhizomatous herb	Jul-Aug	1B.1	S1	G1	
<u>Streptanthus tortuosus ssp. truei</u>	True's mountain jewelflower	Brassicaceae	perennial herb	Jun-Jul(Sep)	1B.1	S1S2	G5T1T2	
<u>Stuckenia filiformis ssp. alpina</u>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S3	G5T5	

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 24 September 2018].

Search the Inventory[Simple Search](#)[Advanced Search](#)[Glossary](#)**Information**[About the Inventory](#)[About the Rare Plant Program](#)[CNPS Home Page](#)[About CNPS](#)[Join CNPS](#)**Contributors**[The Calflora Database](#)[The California Lichen Society](#)[California Natural Diversity Database](#)[The Jepson Flora Project](#)[The Consortium of California Herbaria](#)[CalPhotos](#)**Questions and Comments**rareplants@cnps.org

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Appendix D:

Cultural Resources

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**Native American Heritage Commission
Tribal Consultation List**

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**Native American Heritage Commission
Tribal Consultation List
Nevada County
7/31/2018**

Susanville Indian Rancheria

Brandon Guitierrez, Chairperson
745 Joaquin Street
Susanville, CA, 96130
Phone: (530) 257 - 6264
Fax: (530) 257-7986
sirtribalchair@citlink.net

Maidu
Paiute
Pit River
Washoe

Tsi Akim Maidu

Don Ryberg, Chairperson
P.O. Box 510
Browns Valley, CA, 95918
Phone: (530) 274 - 7497
tsi-akim-maidu@att.net

Maidu

***United Auburn Indian
Community of the Auburn
Rancheria***

Gene Whitehouse, Chairperson
10720 Indian Hill Road
Auburn, CA, 95603
Phone: (530) 883 - 2390
Fax: (530) 883-2380
bguth@auburnrancheria.com

Maidu
Miwok

***Washoe Tribe of Nevada and
California***

Darrel Cruz, Cultural Resources
Department
919 Highway 395 South
Gardnerville, NV, 89410
Phone: (775) 265 - 8600
darrel.cruz@washoetribe.us

Washoe

***Washoe Tribe of Nevada and
California***

Neil Mortimer, Chairperson
919 Highway 395 South
Gardnerville, NV, 89410
Phone: (775) 782 - 0014
ktrovato@washoetribe.us

Washoe

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65362.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed Nevada County General Plan Safety and Housing Updates Project, Nevada County.

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Assembly Bill 52 Letters

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**COUNTY OF NEVADA
COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT**

**950 MAIDU AVENUE, SUITE 170, NEVADA CITY, CA 95959-8617
(530) 265-1222 FAX (530) 265-9851 <http://mynevadacounty.com>**

Sean Powers
Community Development Agency Director

Brian Foss
Planning Director

TO: ***Washoe Tribe of Nevada and California***
Darrel Cruz, Cultural Resources Department
919 Highway 395 South
Gardnerville, NV, 89410

FROM: County of Nevada, CA

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Cruz:

The County of Nevada (County) has decided to undertake the following project: The Nevada County Commercial Cannabis Cultivation Ordinance. As such, the County is initiating the contact for government-to-government consultation required under Assembly Bill 52 by providing this written notification.

Invitation to Consult

The County invites you to participate in consultation for this project. Should you wish to request consultation with the County, please contact Brian Foss using the contact information below. Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the County. We would appreciate your response to this invitation at your earliest convenience. General comments may also be submitted to the County via e-mail, although transmittal of confidential information, such as the specific location of a cultural resource, is not recommended. In such instances, you should notify the County via formal letter, in person, or over the phone, as the confidentiality of information transmitted via email cannot be ensured.

Brian Foss, Planning Director
Nevada County Planning Department
950 Maidu Avenue, Nevada City, CA 95959
(530) 265-1222
Brian.Foss@co.nevada.ca.us

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d).

Project Location: The proposed project is located in all unincorporated areas of Nevada County. The County is bounded by Sierra County and Yuba County on the north, Yuba County on the



**COUNTY OF NEVADA
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(530) 265-1222 FAX (530) 265-9851 <http://mynevadacounty.com>**

Sean Powers
Community Development Agency Director

Brian Foss
Planning Director

TO: *Susanville Indian Rancheria*

Brandon Guitierrez, Chairperson
745 Joaquin Street
Susanville, CA, 96130

FROM: County of Nevada, CA

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Guitierrez:

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Brian Foss, Planning Director
Nevada County Planning Department
950 Maidu Avenue, Nevada City, CA 95959;
(530) 265-1222
Brian.Foss@co.nevada.ca.us

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PLANNING DEPARTMENT**

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(530) 265-1222 FAX (530) 265-9851 <http://mynevadacounty.com>**

Sean Powers
Community Development Agency Director

Brian Foss
Planning Director

TO: Washoe Tribe of Nevada and California
Neil Mortimer, Chairperson
919 Highway 395 South
Gardnerville, NV, 89410

FROM: County of Nevada, CA

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Mortimer:

The County of Nevada (County) has decided to undertake the following project: The Nevada County Commercial Cannabis Cultivation Ordinance. As such, the County is initiating the contact for government-to-government consultation required under Assembly Bill 52 by providing this written notification.

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Brian Foss, Planning Director
Nevada County Planning Department
950 Maidu Avenue, Nevada City, CA 95959
(530) 265-1222
Brian.Foss@co.nevada.ca.us

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d).



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COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT**

**950 MAIDU AVENUE, SUITE 170, NEVADA CITY, CA 95959-8617
(530) 265-1222 FAX (530) 265-9851 <http://mynevadacounty.com>**

Sean Powers
Community Development Agency Director

Brian Foss
Planning Director

TO: Tsi Akim Maidu

Don Ryberg, Chairperson
P.O. Box 510
Browns Valley, CA, 95918

FROM: County of Nevada, CA

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Ryberg:

The County of Nevada (County) has decided to undertake the following project: The Nevada County Commercial Cannabis Cultivation Ordinance. As such, the County is initiating the contact for government-to-government consultation required under Assembly Bill 52 by providing this written notification.

Invitation to Consult

The County invites you to participate in consultation for this project. Should you wish to request consultation with the County, please contact Brian Foss using the contact information below. Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the County. We would appreciate your response to this invitation at your earliest convenience. General comments may also be submitted to the County via e-mail, although transmittal of confidential information, such as the specific location of a cultural resource, is not recommended. In such instances, you should notify the County via formal letter, in person, or over the phone, as the confidentiality of information transmitted via email cannot be ensured.

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(530) 265-1222
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**COUNTY OF NEVADA
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Sean Powers
Community Development Agency Director

Brian Foss
Planning Director

TO: ***United Auburn Indian Community of the Auburn Rancheria***
Gene Whitehouse, Chairperson
10720 Indian Hill Road
Auburn, CA, 95603

FROM: County of Nevada, CA

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Whitehouse:

The County of Nevada (County) has decided to undertake the following project: The Nevada County Commercial Cannabis Cultivation Ordinance. As such, the County is initiating the contact for government-to-government consultation required under Assembly Bill 52 by providing this written notification.

Invitation to Consult

The County invites you to participate in consultation for this project. Should you wish to request consultation with the County, please contact Brian Foss using the contact information below. Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the County. We would appreciate your response to this invitation at your earliest convenience. General comments may also be submitted to the County via e-mail, although transmittal of confidential information, such as the specific location of a cultural resource, is not recommended. In such instances, you should notify the County via formal letter, in person, or over the phone, as the confidentiality of information transmitted via email cannot be ensured.

Brian Foss, Planning Director
Nevada County Planning Department
950 Maidu Avenue, Nevada City, CA 95959
(530) 265-1222
Brian.Foss@co.nevada.ca.us

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d).

Project Location: The proposed project is located in all unincorporated areas of Nevada County. The County is bounded by Sierra County and Yuba County on the north, Yuba County on the

west, Placer County on the south, and the state of Nevada on the east. Please see Figures 1 and 2.

Project Description: The Nevada County Commercial Cannabis Cultivation Ordinance is intended to detail County regulations consistent with state law to enable a structured and logical management procedure for the cultivation of cannabis within all unincorporated areas within the County. Commercial cannabis cultivation would be strictly limited for medical purposes. An unincorporated area is defined as an area or region of land that is not governed by a local municipal corporation, such as a city. The proposed project defines and provides for the regulation for the personal use of cannabis and commercial cannabis cultivation within unincorporated County land. The proposed project is a substantial overhaul and comprehensive update to the County's existing cannabis regulations and is being proposed, in part, as an attempt to regulate the cultivation and reduce existing environmental effects of illegal cultivation operations. Adoption of the proposed project would render indoor, mixed-light, and outdoor cultivation of cannabis, on any parcel or premises in an area or in a quantity greater than as provided by the proposed project, or in any other way not in conformance with or in violation of the provisions of the proposed project and/or state law, as a public nuisance that may be abated by any means available by law. Indoor, Mixed-Light, and Outdoor Cultivation are defined as follows:

Indoor or Indoors– Indoor cultivation means cultivation using exclusively artificial light within a detached fully enclosed and secure accessory structure using artificial light at a rate above twenty-five watts per square foot and that complies with the California Building Code (Title 24, California Code of Regulations) for that specific occupancy type, as adopted by the County of Nevada, except for structures that are exempt from the requirement to obtain a building permit under the Nevada County Land Use and Development Code. For purposes of Personal Use only, “indoor” or indoors” shall also include Cultivation inside a private residence or attached garage, but not in areas inhabited by humans, including, but not limited to bedrooms and kitchens.

Mixed-Light- Mixed-Light means the cultivation of mature or immature cannabis plants in an accessory structure permitted in compliance with local building codes and permitted specifically for cannabis cultivation using light deprivation and/or one of the artificial lighting models described below:

Mixed-Light Tier 1: The use of artificial light at a rate of six watts per square foot or less;

Mixed-Light Tier 2: The use of artificial light at a rate above six watts and below or equal to twenty watts per square foot. Mixed-light cultivation must take place in an accessory structure permitted in compliance with local building codes and permitted specifically for cannabis cultivation.

Outdoor or Outdoors -Outdoor cultivation means cultivation of cannabis in any location that is not “indoors” not “mixed-light” and which is cultivated without the use of any artificial light at any time.

The proposed ordinance has been written, in part, to remedy existing issues including environmental degradation to water quality, creation of objectionable odors, land use conflicts, and impacts to the visual character of the County. The ordinance establishes certain requirements for discretionary land use permits and the annual permitting process. Under the proposed project there will be a three-tier system for 1) personal use; 2) commercial use, and 3) non-remuneration cultivation use. The regulations for cultivation of cannabis have been developed to be consistent with requirements of other commercial activities as well as consistent with state law. Under the proposed project cannabis cultivation would be managed using the policies and regulations within the ordinance.

Project Objectives: The overall purpose of the proposed project is to adopt a County wide ordinance pursuant to the authority granted by Article XI, Section 7 of the California Constitution, Health and Safety Code Section 11362.83, and Government Code Section 25845 to regulate the production of medical cannabis within the County boundaries. The objectives within the scope of the proposed adoption of the ordinance and regulations are to do the following:

- Provide a mechanism for the regulation of a legal commercial cannabis cultivation industry within the unincorporated county;
- Reduce the level of nuisance that existing commercial cannabis cultivation represents to adjacent areas of existing growers;
- Encourage existing cannabis businesses to secure a license to operate in compliance with County and state regulations;
- Reduce the adverse effects of commercial cannabis cultivation on the environment through implementation of these regulations and permitting process;
- Adopt an ordinance that defines specific zones within the County in which production of commercial cannabis cultivation will be allowed;
- Adopt an ordinance that defines, within the specific zones, the total area of commercial cannabis cultivation that will be allowed;
- Reduce the effects of potential adverse effects of commercial cannabis cultivation on sensitive receptors by ensuring compatibility with existing surrounding land uses;
- To align cannabis regulations with regulations applicable to other commercial activities.

Table 1-1: Cannabis Cultivation for Personal Use, below provides a breakdown of the allowable number of plants based on zoning, parcel acreage, and cultivation method. Cultivation in all other zones would not be a permitted use.

Table 1-1: Cannabis Cultivation for Personal Use				
Zoning	Parcel Acreage	Cultivation Method		
		<i>Indoor</i>	<i>Mixed-Light</i>	<i>Outdoor</i>
R1 R2 R3 RA (Residential Designation)	Parcel of Any Size	Maximum of six plants, mature or immature.	Cultivation is Prohibited	Cultivation is Prohibited
R-A (Rural and Estate Designation)	5.00 Acres or greater	Maximum of Six Plants, mature or immature		
AG AE FR TPZ	1.99 or less	Maximum of Six Plants, mature or immature	Cultivation is Prohibited	Cultivation is Prohibited
	Parcels 2.00 acres or greater	Maximum of Six Plants, mature or immature		

Source: Nevada County, 2018
 Abbreviations: R-1 (Single Family); R-2 (Medium Density); R-3 (High Density); R-A (Residential Agriculture); AG (General Agriculture), AE (Agriculture Exclusive), FR (Forest), TPZ (Timber Production Zone).

Table 1-2: Cannabis Cultivation for Commercial Use, below, provides a breakdown of the of the allowable square feet of allowable plants canopy based on zoning, parcel acreage, and cultivation method.

Table 1-2: Cannabis Cultivation for Commercial Use				
Zone	Parcel acre	Cultivation Method		
		<i>Indoor</i>	<i>Mixed-Light</i>	<i>Outdoor</i>
R1 R2 R3 RA (Regardless of Zone Designation)	Parcel of Any acreage	Commercial Cultivation is Prohibited		
AG AE FR	2.0 acres or less	Commercial Cultivation is Prohibited		
	Parcels 2.00 acres to 4.99 acre	Maximum of 500 sf canopy	Commercial Cultivation is Prohibited	
	Parcels 5.00 acres to 9.99 acres	Up to a maximum of 2,500 sf of canopy for any method or combination thereof.		
	Parcels 10.00 acres to 19.99 acres	Up to a maximum of 5,000 sf of canopy for any method or combination thereof.		
	Parcels 20 acres or greater	Up to a maximum of 10,000 sf of canopy for any method or combination thereof.		

Source: Nevada County, 2018
 Abbreviations: R-1 (Single Family); R-2 (Medium Density); R-3 (High Density); R-A (Residential Agriculture); AG (General Agriculture), AE (Agriculture Exclusive), FR (Forest), TPZ (Timber Production Zone).

According to the County’s existing zoning designation, the purpose of the eight zones in which cannabis cultivation would be allowed are as follows:

- RA (Residential Agricultural). The RA District establishes provisions for low density single-family dwellings, as well as other dwelling unit types in keeping with the rural character of the area, at densities equivalent to 1.5-acre minimum parcel size, or 3-acre minimum parcel size where neither a public water nor public sewer system is available. Within the Residential and Estate General Plan designations, the single-family dwelling is of primary importance and agricultural uses are Secondary. Within Rural General Plan designations, agricultural operations and natural resource related uses and residential uses are of equal importance.
- R1 (Single-Family). The R1 District implements the General Plan's Urban Single-Family designation. It is intended to provide for single-family dwellings, as well as other dwelling unit types, at densities of up to 4 dwelling units per acre.
- R2 (Medium Density). The R2 District implements the General Plan's Urban Medium Density Designation and provides for moderate density multiple-family housing, as well as other dwelling unit types. Densities of up to 6 dwelling units per acre are permitted. This District is appropriate for the development of affordable housing through clustering of residences or other design techniques.
- R3 (High Density). The R3 District implements the General Plan's Urban High-Density Designation and provides for high density multiple-family housing, as well as other dwelling unit types. Densities of up to 20 dwelling units per acre within incorporated area's spheres of influence and 15 units per acre elsewhere are permitted unless otherwise designated on the official zoning map.
- AG (General Agricultural). The AG District provides areas for farming, ranching, agricultural support facilities and services, low intensity uses, and open space. It is consistent with all agricultural-oriented General Plan land use designations, as well as those designations that allow for more intensive uses. Agricultural uses are of primary importance and all other uses are secondary.
- AE (Agricultural Exclusive). The AE District provides for the preservation and protection of important agricultural lands that are being used for commercial agricultural production. It is consistent with all agricultural-oriented General Plan land use designations, as well as those designations that allow for more intensive uses. Agricultural uses are of primary importance and all other uses determined to be incompatible with agriculture shall not be permitted.
- FR (Forest). The FR District provides areas for the protection, production and management of timber, timber support uses, including but not limited to equipment storage and temporary offices low intensity recreational uses, and open space (Nevada County, 2017).
- TPZ (Timberland Production Zone). The TPZ District provides for prudent and responsible forest resource management and the continued use of timberlands for the production of timber products and compatible uses. It is established in conformance with the Forest Taxation Reform Act of 1976 and all requirements and restrictions therein shall apply. It

is intended to be a district where the land is devoted to the growing and harvesting of timber and for such compatible uses that do not significantly detract from the use of the land for the growing and harvesting of timber.

The existing County Zoning Designation are shown in *Figure - 3a: Western Nevada County Zoning Districts (northern portion)*, *Figure - 3b: Western Nevada County District Zoning (southern portion)*, and *Figure - 3c: Eastern Nevada County Zoning Districts*. These maps reflect the existing zoning designations within the County and show the associated locations and zones that cultivation would be authorized.

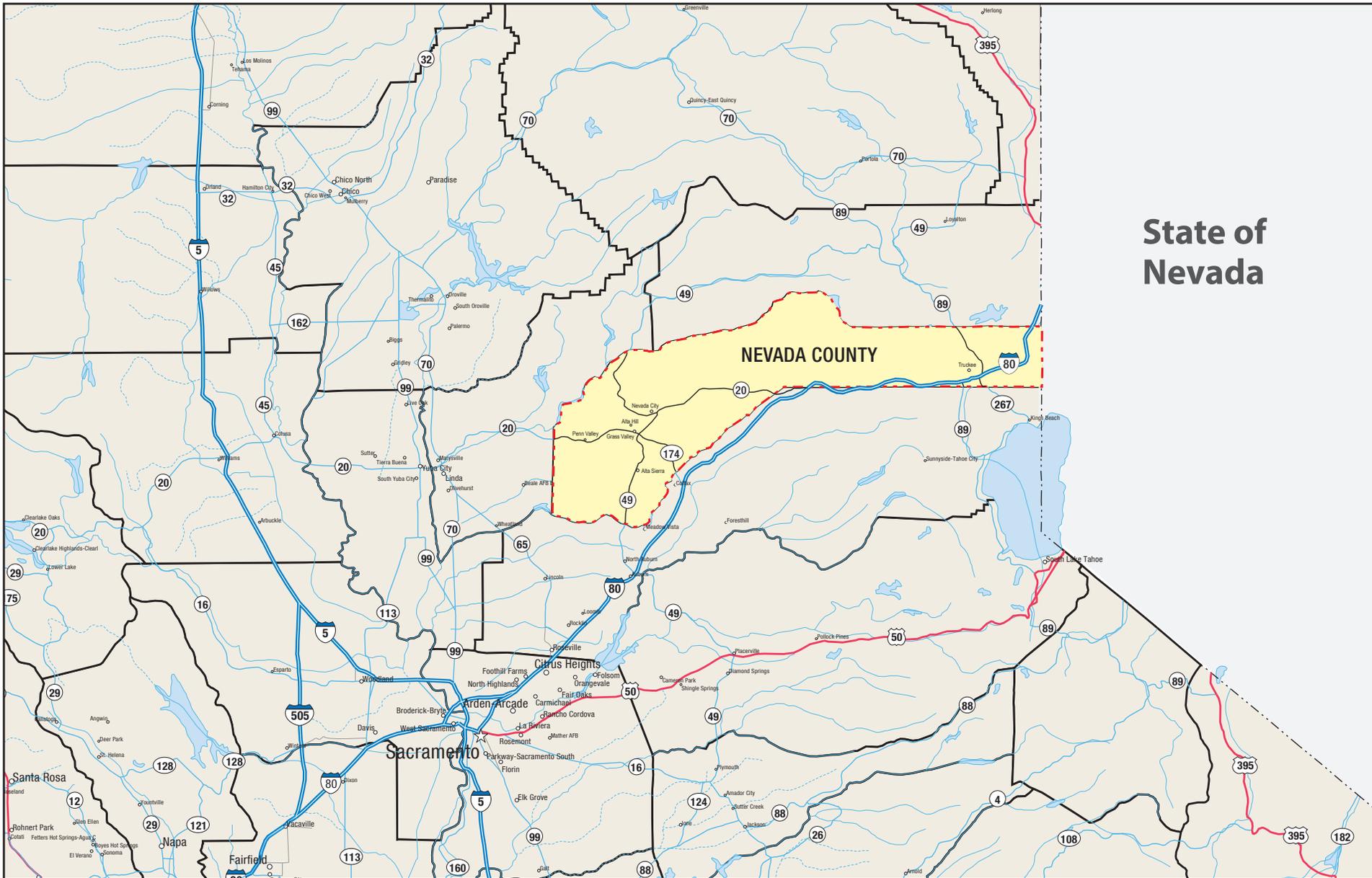
Required Permits: The permitting of commercial and non-remuneration cannabis activities is defined by Section 1.6 of the ordinance specifically lists the permitting requirements of locations that would be engaged in Commercial and Non-Remuneration Cannabis Activities including obtaining a land use permit, either an Administrative Development Permit (ADP) or Conditional Use Permit (CUP), and an Annual Cannabis Permit (ACP). A summary of these permits is provided in *Table 1-3: Required Permits for Commercial Cannabis Cultivation*.

Table 1-3: Required Permits for Commercial Cannabis Cultivation		
Administrative Development Permit	Conditional Use Permit	Annual Cannabis Permit
An ADP would be required for cultivation activities with canopy sizes up to a total of 2,500 square feet for indoor, mixed-light, or outdoor cultivation. An ADP would only be issued to the legal owner of the parcel of premises.	A CUP would be required for all cultivation canopies between 2,501-to 10,000 square feet for indoor, mixed-light, or outdoor cultivation. A CUP would only be issued to the legal owner of the parcel of premises.	An ACP would be issued to the individual or entity engaging in the commercial cannabis activity or non-remuneration cultivation and must be renewed annually.

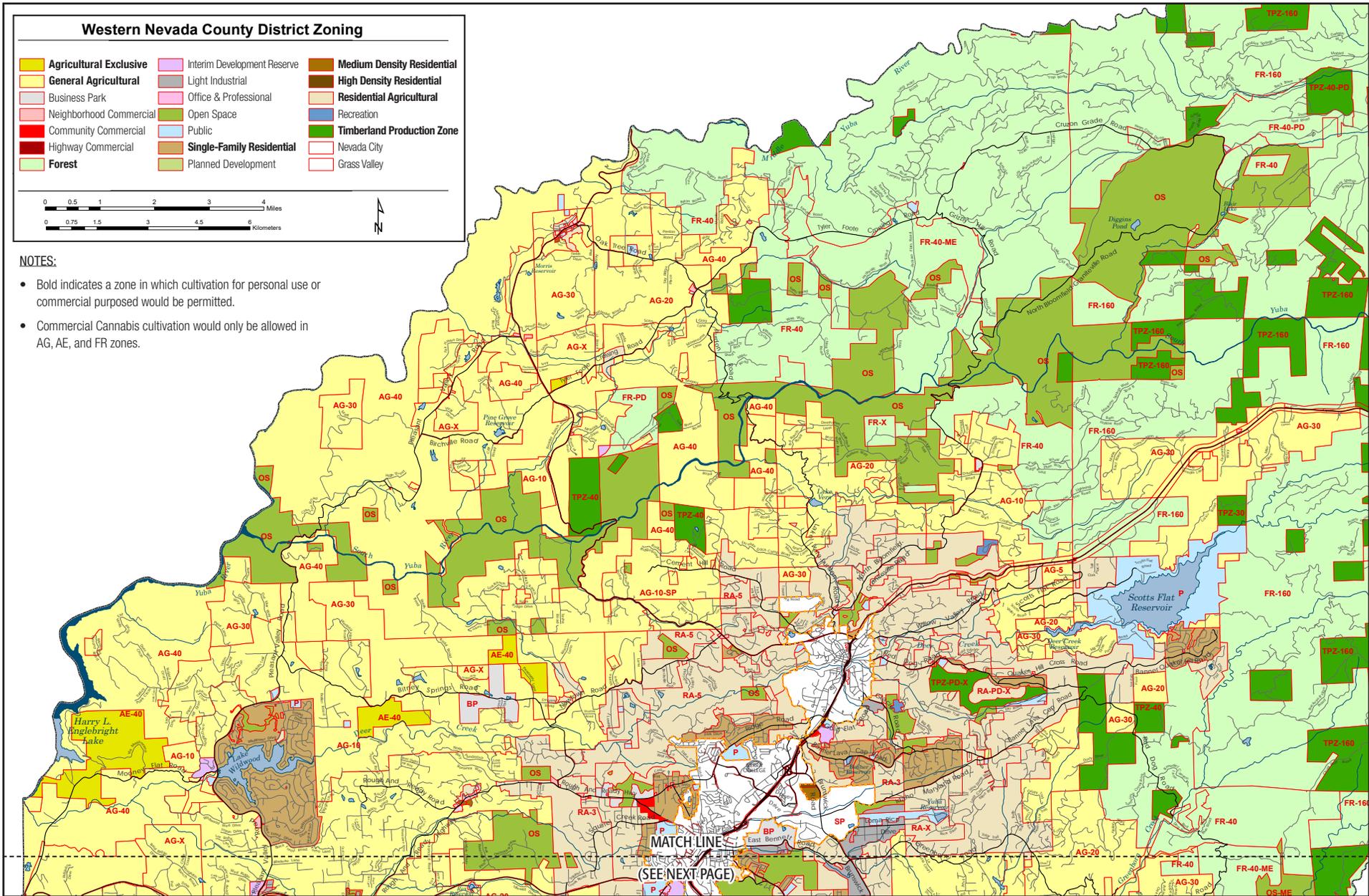


Nevada County Commerical Cannabis Ordinance EIR
FIGURE 1: Regional Location Map



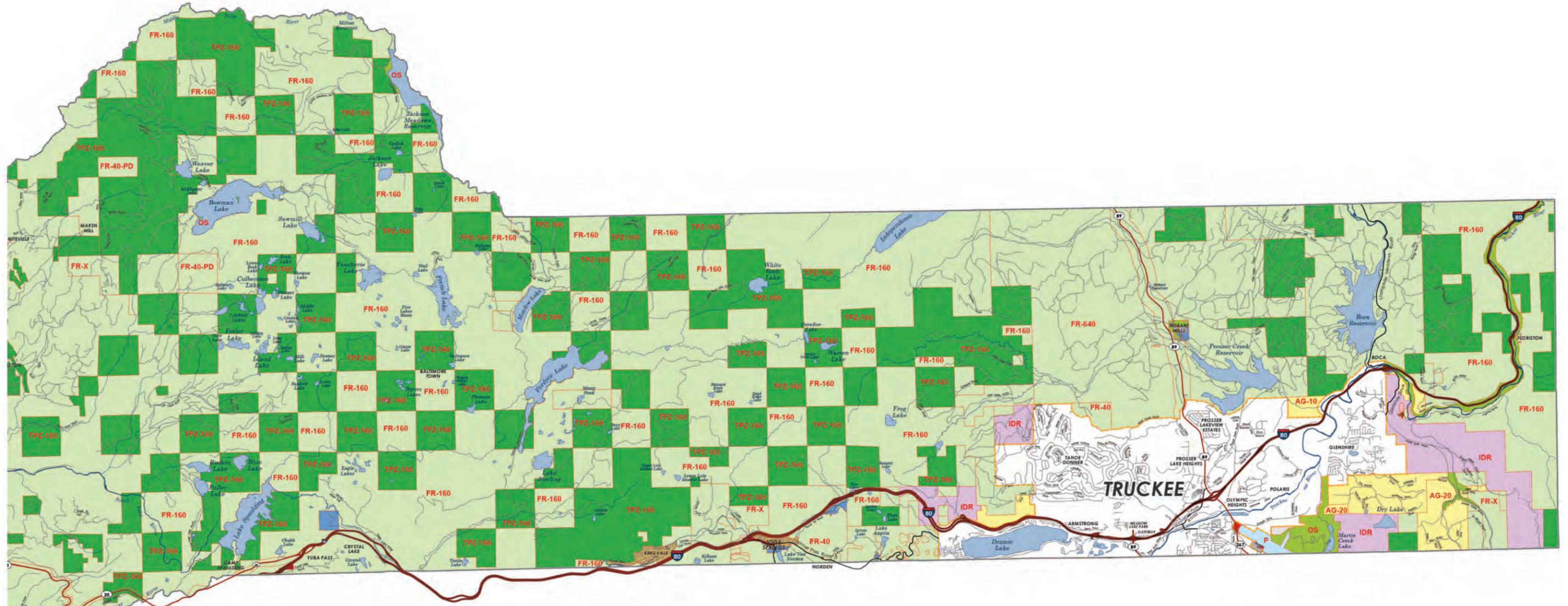


Nevada County Commerical Cannabis Ordinance EIR
FIGURE 2: Project Vicinity Map



Nevada County Commerical Cannabis Ordinance EIR
FIGURE 3a: Western Nevada County District Zoning
 (Northern Portion)





Eastern Nevada County Zoning Districts		
General Agricultural	Incorporated Area	Medium Density Residential
Business Park	Interim Development Reserve	High Density Residential
Neighborhood Commercial	Light Industrial	Residential Agricultural
Community Commercial	Open Space	Recreation
Highway Commercial	Public	Timberland Production Zone
Forest	Single-Family Residential	

Created by Nevada County GIS Division 12/20/2015
 Eastern Nevada County Zoning Map
 Every reasonable effort has been made to ensure the accuracy of the map.
 The County of Nevada assumes no responsibility for errors or omissions.
 WARRANTY OF ANY KIND, after approval or posting, including but not limited to, the fitness of the information for any particular purpose.
 For a complete and current listing of zoning districts, please refer to the zoning ordinance as published in the Nevada County Public Counter staff website at the county website.

Last Update: 12/3/2015

- NOTES:**
- Bold indicates a zone in which cultivation for personal use or commercial purposes would be permitted.
 - Commercial Cannabis cultivation would only be allowed in AG, AE, and FR zones.



Nevada County Commercial Cannabis Ordinance EIR
FIGURE 3c: Eastern Nevada County Zoning Districts

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National Register of Historic Places Database

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National Register of Historic Places Program: Research - Data Downloads

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

Spatial Data (GIS)

Web based map with address search

The map prefers the Google Chrome browser over Internet Explorer or Firefox.

Download the - [National Register of Historic Places Public Dataset spatial data](#) (links to NPS IRMA Portal - link may not work with Firefox browser, but does work with IE Explorer and Chrome)

The download link is about halfway down the page under the "holdings" section.

The [National Park Service Cultural Resources GIS program](#) has created spatial data from the unrestricted National Register of Historic Places database (NRIS) inventory in a file geodatabase format using ESRI's ArcMap 10.0. The data model is structured in compliance with NPS Cultural Resources Spatial Data Transfer Standards. More detail on the model and these standards can be found here:

<http://www.nps.gov/history/hdp/standards/index.htm>

Use of this information in meeting a federal agency's responsibilities under Section 106 of the National Historic Preservation Act does not in itself constitute compliance with Section 106, which requires agencies to consult with the appropriate State and/or Tribal Preservation Offices in the identification and evaluation of historic properties.

Users should be aware that many points and polygon boundaries require some level of correction. In general, this dataset contains modest corrections to the coordinates contained in the NRIS with reference to some of the point data. In many cases, polygon boundaries may appear incorrect due to minor errors in the database. It is our intent to be able to address these errors and improve the quality of the spatial data over time. Users who do not have licensed GIS software available to them may view the data using ESRI's free ArcGIS Explorer Desktop tool. This program can be downloaded here:

<http://www.esri.com/software/arcgis/explorer>

This dataset represents the contents of the available coordinates for unrestricted National Register properties. A schedule of updates will be posted in the near future.

Spreadsheets:

(in excel format)

[Spreadsheet of NRHP List](#) (listings up to December, 2017)

[Multiple Property Cover Documents](#) (listings up to July, 2015 - Includes links to pdfs)

[Spreadsheet of NHLs](#) (designations up to December, 2017)

[Spreadsheet of NHL with links to available scanned files](#) (up to 2015)

[Federal Determinations of Eligibility](#) (Determinations up to July, 2015)

[Federal listings: National Register of Historic Places listed properties from federal agencies](#) (listings up to July, 2015)

[Everything: National Register of Historic Places Properties: Listed/Returned/Removed/eligible/ineligible](#) (up to September 20, 2018)

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Nevada County Landmarks

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Nevada

NO. 134 DONNER MONUMENT (or) PIONEER MONUMENT - Commemorates the ill-fated Donner party of California-bound emigrants, who wintered here in 1846-1847, many died of exposure and starvation.

Location: Donner Memorial State Park, Old Hwy 40 at I-80 and Truckee exit, Truckee

NO. 247 THE WORLD'S FIRST LONG-DISTANCE TELEPHONE LINE - The first long-distance telephone in the world, built in 1877 by the Ridge Telephone Company, connected French Corral with French Lake, 58 miles away. It was operated by the Milton Mining Company from a building on this site that had been erected about 1853.

Location: On Pleasant Valley Rd, in center of community of French Corral

NO. 292 HOME OF LOLA MONTEZ - Lola was born in Limerick, Ireland on July 3, 1818, as María Dolores Eliza Rosanna Gilbert. After living in England and on the continent, Lola came to New York in 1851 and settled in Grass Valley in 1852. It was here she built the only home she ever owned and became friends with Lotta Crabtree, who lived up the street. Lola died January 17, 1861 and was buried in Greenwood Cemetery, New York.

Location: 248 Mill St, Grass Valley

NO. 293 HOME OF LOTTA CRABTREE - Lotta Crabtree was born in New York in 1847. In 1852-3 the gold fever brought her family to California. Several months after arriving in San Francisco, Mrs. Crabtree and Lotta went to Grass Valley and with Mr. Crabtree started a boarding house for miners. It was here that Lotta met Lola Montez, who taught her to sing and dance. In Scales, Plumas County, Lotta made her first public appearance, which led to a successful career on stage here and abroad.

Location: 238 Mill St, Grass Valley

NO. 294 THE LITTLE TOWN OF ROUGH AND READY - Established in 1849 and named in honor of General Zachary Taylor, after the Rough and Ready Company of miners from Wisconsin, this was one of the principal towns of Nevada County. In 1850, articles of secession were drawn up establishing the 'Republic of Rough and Ready.' As a result of disastrous fires, only a few structures remain today that were built in the 1850s.

Location: NE corner of State Hwy 20 and Mountain Rose Rd, Rough and Ready

NO. 297 SITE OF ONE OF THE FIRST DISCOVERIES OF QUARTZ GOLD IN CALIFORNIA - This tablet commemorates the discovery of gold-bearing quartz and the beginning of quartz mining in California. The discovery was made on Gold Hill by George Knight in October 1850. The occurrence of gold-bearing quartz was undoubtedly noted here and elsewhere about the same time or even earlier, but this discovery created the great excitement that started the development of quartz mining into a

great industry. The Gold Hill Mine is credited with a total production of \$4,000,000 between 1850 and 1857.

Location: SW corner of Jenkins St and Hocking Ave, Grass Valley

NO. 298 EMPIRE MINE - The Empire Mine was originally located by George D. Roberts in October 1850. In the spring of 1854, the Empire Mining Company was incorporated and in 1865 new works, including a 30-stamp mill, were erected. In 1869 Wm. B. Bourn, Sr. purchased the Empire, when he died, Wm. B. Bourn, Jr. took over its management. The Empire was in constant operation from 1850 to the late 1950s.

Location: Empire Mine State Historic Park, 10791 Empire St, 1.2 mi E of Grass Valley

NO. 390 BRIDGEPORT HISTORIC DISTRICT

(http://www.ohp.parks.ca.gov/pages/1067/files/california_nevada%20county_bridgeport%20historic%20district.pdf) -

Also known as "Bridgeport (Nyes Crossing) Covered Bridge." Built in 1862 by David Isaac John Wood with lumber from his mill in Sierra County, this bridge was part of the Virginia Turnpike Company toll road which served the northern mines and the busy Nevada Comstock Lode. Utilizing a combination truss and arch construction, it is the longest single span covered bridge in the United States. In 1970 it was designated a National Civil Engineering Landmark, and was listed on the National Register of Historic Places in July 1971. The historic district includes the bridge, an 1862 barn, 1927 gas station, a portion of the original Virginia Turnpike toll road, and the Kneebone Family Cemetery.

Location: South Yuba River State Park, 17660 Pleasant Valley Road, Penn Valley

Listed on the National Register of Historic Places: NPS-71000168

NO. 628 ALPHA HYDRAULIC DIGGINGS - One mile north of here were the towns of Alpha and Omega, named by gold miners in the early 1850s. The tremendous hydraulic diggings, visible from near this point, engulfed most of the original townsites. Alpha was the birthplace of famed opera singer Emma Nevada. Mining at Omega continued until 1949, and lumbering operations are carried on there today (1958).

Location: Omega Rest Area, Hwy 20 (P.M. 35. 7), 6 mi E of Washington Rd, Washington

NO. 629 OMEGA HYDRAULIC DIGGINGS AND TOWNSITE - One mile north of here were the towns of Alpha and Omega, named by gold miners in the early 1850s. The tremendous hydraulic diggings, visible from near this point, engulfed most of the original townsites. Alpha was the birthplace of famed opera singer Emma Nevada. Mining at Omega continued until 1949, and lumbering operations are carried on there today (1958).

Location: Omega Rest Area, Hwy 20 (P.M. 35. 7), 6 mi E of Washington Rd, Washington

NO. 780-6 FIRST TRANSCONTINENTAL RAILROAD-TRUCKEE - While construction on Sierra tunnels delayed Central Pacific, advance forces at Truckee began building 40 miles of track east and west of Truckee, moving supplies by wagon and sled, and Summit Tunnel was opened in December 1867. The line reached Truckee April 3, 1868, the Sierra was conquered. Rails reached Reno June 19, and construction advanced eastward toward the meeting with Union Pacific at the rate of one mile daily. On May 10, 1869, the rails met at Promontory (Utah) to complete the first transcontinental railroad.

Location: SP Depot, 70 Donner Pass Rd, Truckee

NO. 799 OVERLAND EMIGRANT TRAIL - Over a hundred years ago, this trail resounded to creaking wheels of pioneer

wagons and the cries of hardy travelers on their way to the gold fields. It is estimated that over thirty thousand people used this trail in 1849. Here the old trail approaches the present highway.

Location: SE side of Wolf Creek Bridge, State Hwy 49 (P.M. 3.61), 10 mi S of Grass Valley

NO. 832 SOUTH YUBA CANAL OFFICE - This was the headquarters for the largest network of water flumes and ditches in the state. The South Yuba Canal Water Company was the first incorporated to supply water for hydraulic mining. The original ditch was in use in May 1850, and this company office was in use from 1857 to 1880. The company's holdings later became part of the vast PG&E hydroelectric system.

Location: 134 Main St, Nevada City

NO. 843 NORTH STAR MINE POWERHOUSE - The North Star Powerhouse, built by A. D. Foote in 1895, was the first complete plant of its kind. Compressed air, generated by Pelton water wheels, furnished power for the entire mine operation. The 30-foot Pelton wheel was the largest in the world, and was in continuous use for over 30 years.

Location: Mining and Pelton Wheel Museum, S Mill at Allison Ranch Rd, Grass Valley

NO. 852 NORTH BLOOMFIELD MINING AND GRAVEL COMPANY - This was a major hydraulic gold-mining operation in California. It boasted a vast system of canals and flumes, its 7,800-foot drainage tunnel was termed a feat of engineering skill. It was the principal defendant in an anti-debris lawsuit settled in 1884 by Judge Lorenzo Sawyer's famous decision, which created control that virtually ended hydraulic mining in California.

Location: Malakoff Diggins State Historic Park, 16 mi E of State Hwy 49 on Tyler Foote Crossing Rd, plaque located in park diggins overlook, 28 mi N of Nevada City

NO. 855 MOUNT SAINT MARY'S CONVENT AND ACADEMY - Built by Reverend Thomas J. Dalton, the Sacred Heart Convent and Holy Angels Orphanage was dedicated May 2, 1865 by Bishop Eugene O'Connell. Under the Sisters of Mercy, it served from 1866 to 1932 as the first orphanage of the Northern Mines. It functioned as an academy from 1868 to 1965 and as a convent from 1866 to 1968.

Location: S Church St between Chapel and Dalton Sts, Grass Valley

NO. 863 NEVADA THEATRE - California's oldest existing structure erected as a theater, the Nevada, opened September 9, 1865. Celebrities such as Mark Twain, Jack London, and Emma Nevada have appeared on its stage. Closed in 1957, the theatre was later purchased through public donations and reopened May 17, 1968 to again serve the cultural needs of the community.

Location: 401 Broad St, Nevada City

NO. 899 NATIONAL HOTEL - The National Exchange Hotel opened for business on August 20, 1856, the exterior is virtually unchanged since its construction as three brick buildings in 1856. The National is one of the oldest continuously operating hotels west of the Rockies.

Location: 211 Broad St, Nevada City

NO. 914 HOLBROOKE HOTEL - The hotel was built in 1862 around the Golden Gate Saloon, originally constructed in 1852 and

the oldest continuously operating saloon in the Mother Lode region. The hotel's one-story fieldstone and brick construction is an outstanding example of mid-19th century Mother Lode masonry structures.

Location: 212 W Main St, Grass Valley

NO. 1012 FIRST MANUFACTURING SITE OF THE PELTON WHEEL - The Pelton Water Wheel, first commercially manufactured here at George Allan's Foundry and Machine Works in 1879, was a major advancement in water power utilization and greatly advanced hard-rock mining. Its unique feature was a series of paired buckets, shaped like bowls of spoons and separated by a splitter, that divided the incoming water jets into two parts. By the late 1800s, the Pelton Wheels were providing energy to operate industrial machinery throughout the world. In 1888, Lester Pelton moved his business to San Francisco, but granted continuing manufacturing rights to Allan's Foundry, where the wheels were manufactured into the early 1900s.

Location: 325 Spring St, Nevada City

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NEVADA CITY FIREHOUSE NO. 2 (N286)	✓			
NEVADA CITY FREE PUBLIC LIBRARY (N1659)	✓			
NEVADA THEATRE (863)	✓	✓		
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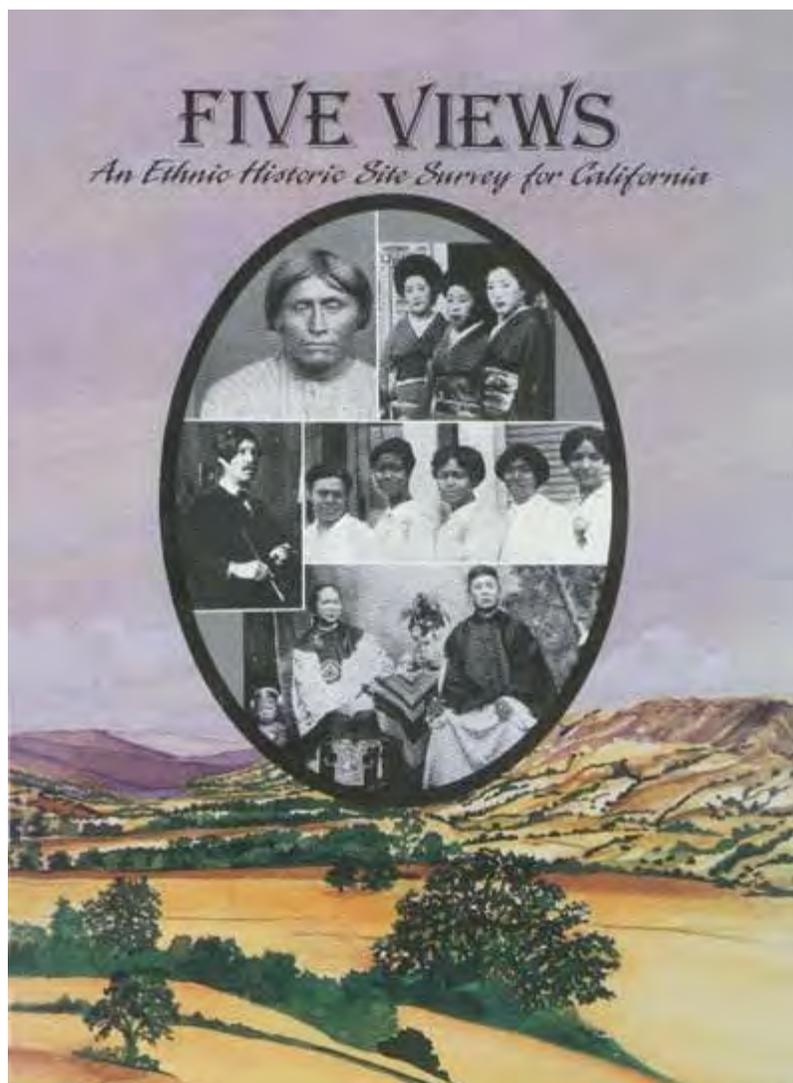
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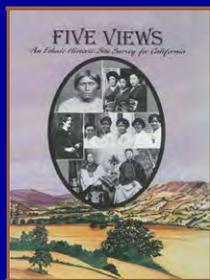
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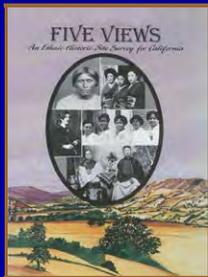
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FOREWORD

This survey was originally conceived in order to broaden the spectrum of ethnic community participation in historic preservation activities and to provide better information on ethnic history and associated sites. This information will help planners identify and evaluate ethnic properties, which have generally been under represented on historic property surveys. Most surveys record architecturally distinguished or widely known buildings, but ethnic properties are often modest structures or important because of people or events less familiar to many. Most of all, the public needed the opportunity to become more aware of California's cultural diversity and its tangible manifestations on the land.

In response to legislative action, in 1979, the California Office of Historic Preservation took the lead to improve representation of ethnic minority properties in cultural resource surveys. For this first effort, California's five largest minority present during the 50 years after 1848 were chosen. Following recruitment in search of the best possible experts for each subject area, contacts were awarded and the surveys were done. The surveys consisted of a narrative history and one hundred recorded sites, one-quarter of which were described in the final report.

The authors of each survey expressed their own views, and although the report has been edited for clarity and consistency, their conclusions have not been revised or altered. Their statements do not necessarily represent the position or opinions of the State of California or any of its official representatives. The various chapters should, therefore, be looked upon as individual statements, presented as a public service without copyright restrictions. Use of this material is encouraged, with credit to the California Department of Parks and Recreation and the authors themselves.

The survey should be useful in a variety of ways to researchers, schools, government agencies, historic preservation organizations, and ethnic communities. We hope that it will stimulate interest and action among groups in California and in other states. Most of all we hope that it will help people more fully recognize and appreciate the accomplishments and contributions of California's varied communities.

In any case, it is important to remember that this report is only a beginning, one step in an ongoing process. It raises more questions than it answers. What other groups should be studied? How are these five groups alike or different? Are there universal themes? What other factors could be explored? How do the groups' histories interrelate? Are there other sites that should be preserved or recognized?

While this report provides a starting point for further research, its existence should demonstrate the effort being made to more fully recognize California's ethnic diversity and the contributions that have been made to our heritage by Californians of widely differing backgrounds.

Henry R. Agonia, Director
California Department of Parks and Recreation

Kathryn Gualtieri
State Historic Preservation Officer

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A History of American Indians in California: INTRODUCTION

The history of California Indians is a different story from that of other ethnic groups who came in the last few centuries as immigrants to an already populated land. For Indians, this is their homeland, and their history spans more than 10,000 years of occupation. Unlike other groups who came to California to gain wealth or to escape undesirable conditions, California Indians lived in a land of plenty. Their material technology reflected what was necessary to meet their needs.

While people often write about how Indians developed a means of living in harmony with their environment, this cultural lifestyle was more a reflection of numbers, the carrying capacity of the land, and personal needs. What might have happened if Europeans had not arrived cannot be determined. However, just as in the case of many other societies, we can assume that, as their numbers and needs increased, greater pressure would have been put on the environment. Indians would have adapted or ceased to exist.

California Indians, like American Indians in general, have been the subject of many books and studies. The written record shows that in California alone there were hundreds of small groups, speaking more than 100 languages. Unlike the present population of California, the Indians lived well within the capacity of their environment. They developed religious systems and social norms, and they traded with their neighbors for goods or services not available in their own communities. They did what was necessary to survive.

A number of good source books have been written about California Indian life before the coming of European people and culture. Books that offer a wealth of information include the following:

Alfred Louis Kroeber, *Handbook of the Indians of California*

Robert F. Heizer, et al., *Handbook of North American Indians:*
Vol. 8

Robert F. Heizer and M. A. Whipple, *The California Indians; A*
Source Book

But this report is not about the prehistory of California Indians, nor is it the story of any one Indian group. Rather, it is a commentary on those events, procedures, laws, and situations that confronted and greatly affected California Indians and their ability to survive once Europeans arrived. The reason it is important to tell this aspect of Indian history, rather than the more romantic story of how Indians lived in harmony with nature, is the same reason it is important to tell the history of any people — so we can learn from the mistakes

of the past and try not to make those same mistakes in the future. Finally, we tell this history so that Indian people and non-Indian people might better understand why Indians have evolved as they have — why they are people attempting to retain their cultural identity while surviving in the modern world.

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A History of American Indians in California: PRE-1769

Most historians agree that Portuguese-born Juan Rodriquez Cabrillo was the first European to explore California. Sailing under the Spanish flag in 1542, Cabrillo hoped to find the northwest passage; instead, he found the California coast and claimed the new-found land for Spain. With his entrance into California, the course of California Indian history changed drastically.

"Traditionally, California Indians have been portrayed in history as a docile primitive people, who openly embraced the invading Spaniards and were rapidly subdued. This simplistic contention adds little to a realistic understanding of native history in California and undoubtedly is derived from crude feelings of racial superiority on the part of its advocates." (Heizer, 1978:99) The relationship between the Spanish and the Indians was not a peaceful co-existence. Rather, the history of California Indians is the story of an attempt to survive a series of invasions and the hardships that ensued.

In 1579, an Englishman, Sir Francis Drake, sailed into California. While much discussion has occurred as to exactly where Drake anchored, it is known that he spent five weeks among the California natives. Before leaving, he claimed the whole territory for the English Crown. He based his claim on the "right of discovery." Thus, within the first 40 years of European influence in California, two countries had claimed the land, and neither had acknowledged the rights of the natives who had resided on it for thousands of years.

Other explorers of early California included Pedro de Unamuno in 1587, Sebastian Rodriquez Cermeno in 1595, and Sebastian Vizcaino in 1602-1603. While none of these early explorers stayed very long or developed any framework for the establishment of permanent settlements, their visits had a lasting effect.

The theoretical question of land ownership brought about by Spanish and English claims to California and by non-acknowledgment of the rights of the Indians was overshadowed in practical reality by the introduction of disease. It cannot be determined at this time exactly what effects early explorers and the introduction of their diseases had on California Indians during the early exploration periods, It is certain, however, is that European diseases eventually devastated the Indian population.



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A History of American Indians in California: 1769-1848

On July 16, 1769, the Spanish founded the first mission in California. It has been estimated that there were about 310,000 Indians living in California at the time. (Cook, 1962:92) However, over the next 80 years, this number was to change drastically, along with the lifestyle and culture of the Indians.

"Spain's Indian policy at the time of the invasion of California was a mixture of economic, military, political, and religious motives. Indians were regarded by the Spanish government as subjects of the Crown and human beings capable of receiving the sacraments of Christianity." (Heizer, 1978:100) "It was essential under 'missionization' that California Indians be 'reduced' into settled and stable communities where they would become good subjects of the King and children of God. Missionization required a brutal lifestyle akin in several respects to the forced movement of black people from Africa to the American South." (Archibold, 1978:172) Thus, "it should be clear, then, that the missions of California were not solely religious institutions. They were, on the contrary, instruments designed to bring about a total change in culture in a brief period of time." (Forbes, 1969:29)

The missions were built with Indian labor. This seems ironic given the devastating effect the mission system had on Indian population and culture, but it must be remembered that the Spanish saw the Indian neophytes (a neophyte is a new religious convert) as "little more than an energy source which cost nothing to acquire and nothing to maintain — they were an expendable resource. If the mission system had been progressive, if the priests (and the Mexican Presidents) had been able to learn from observation and experience, and thus allow changes to occur which would have been accommodations to problems of managing the neophyte populations, then there could have developed an operation which would have become more humane, and more consistent with doctrinal theory." (Banning, 1978:136)

From 1769 to 1800, the California coast was under Spanish control from as far north as San Francisco to San Diego in the south. However, this was not accomplished without a certain amount of resistance. Within a month after establishment of the San Diego mission in 1769, the Indians "attacked the Spanish camp, attempting to drive the invaders from their territory. But the Spanish soldiers, using guns, defended their settlement and an uneasy peace ensued. Yet, it would be another two years before Mission San Diego could record its first baptism." (Heizer, 1978:101)

Throughout the mission period, Indians resisted Spanish rule. "One of the earliest and most successful demonstrations of native resistance to colonization

was the destruction of Mission San Diego on November 4, 1775. Under the leadership of the neophyte Francisco of the Cuiamac Rancheria, the Ipai-Tipai organized nine villages into a force of about 800 men who not only completely destroyed the mission but also killed three Hispanos including Padre Jaime." (Heizer, 1978:103)

Not every resistance effort was violent. "The natives, Christian and gentile, caused more trouble in the region of San Francisco than in any other part of California. . . . In September of the same year 1795 over two hundred natives deserted from San Francisco, different parties in different directions, the number including many old neophytes who had always been faithful before." (Bancroft, 1963:708-709) Resistance occurred throughout the mission period, but the clerico-military administration did not tolerate even non-violent resistance. They responded by attempting to prevent escapes, sending out armed parties to capture runaways, and punishing recaptured runaways.

When Indians did resist, they did not go unpunished; in many instances, it was punishment that caused the resistance. "Perhaps the most spectacular Indian rebellion in California during this era was the 1824 revolt at Missions La Purisima and Santa Barbara. The reason for the revolt was ill treatment and forced labor imposed by the soldiers and priests upon neophytes in the area, but the immediate cause was a fight that broke out at the flogging of a La Purisima neophyte at Santa Ynez in February. Apparently no one was killed but a large part of the mission buildings was destroyed by fire. That same afternoon as many as 2,000 Indians attacked and captured Mission La Purisima. . . . It was not until March 16 that the Spanish soldiers attacked the 400 defenders at La Purisima with hundreds of armed and mounted men and four pounder guns." (Heizer, 1978:103) The Indians who led the rebellion were punished. Seven Indians were put to death, while many others were imprisoned and required to do hard labor.

Another form of resistance involved the retention of native religious activities. "In general, the natives did their best to secretly preserve their ancient religion in the missions, although it became increasingly difficult to do so. Native revivals are known to have occurred as in the Santa Barbara area in 1801." (Forbes, 1969:35)

In looking at the mission system, it is easy to understand why the Indians resisted. In 1786, Jean Francois Galaup de La Perouse, a French navigator, made the following report. On the way into church, he passed a place where Indians were seated in rows by sex. "We repassed, on going out of church, the same row of male and female Indians, who had never quitted their post during Te Deum; the children only had removed a little. . . . On the right stands the Indian Village, consisting of about fifty cabins, which serve as dwelling places to seven hundred and forty persons of both sexes, comprising their children, which compose the mission. . . . These cabins are the most miserable that are to be met among any people; they are round, six feet in diameter by four in height. . . . The men and women are assembled by the sound of the bell. One of the religious conducts them to their work, to church, and to all their other exercises. We mention it with pain, the resemblance so perfect, that we saw men and women loaded with irons, others in the stocks; and at length the noise of the strokes of a whip struck our ears, this punishment being also admitted, but not exercised with much severity." (Fehrenbacher, 1964:100-101) Whether or not the flogging was exercised with "severity" is not the point, but rather,

was this form of punishment necessary?

In 1799, Padre Antonio de la Concepcion Horra of Mission San Miguel enraged his contemporaries by reporting to the viceroy in Mexico, "'The treatment shown to the Indians is the most cruel I have ever read in history. For the slightest things, they receive heavy flogging, are shackled and put in the stocks, and treated with so much cruelty that they are kept whole days without water.' The unfortunate padre was quickly isolated, declared insane, and taken under armed guard out of California." (Heizer, 1978:102) Other conditions that made the mission intolerable to the Indians included overcrowding, lack of native foods, and the weather (especially for inland Indians who were required to live on the coast for the entire year).

During the mission period, disease played a significant role in the reduction of the native population. Three major epidemics broke out during the Spanish period. In 1777, there was a respiratory epidemic; in 1802, a pneumonia and diphtheria epidemic; and in 1806, a measles epidemic. However, diseases were not the only cause for the rapid decline of the Indian population while under mission rule. Much of the decline can be attributed to changes in diet and inadequate nutrition. (Heizer, 1978:102-103) In 1818, Governor Vicente de Sola reported that 64,000 Indians had been baptized, and that 41,000 were dead. (Forbes, 1969:37)

Not everything was negative under Spanish and Mexican rule. In 1824, the constitution guaranteed citizenship to "all persons." While neither the Spanish nor the Mexicans acknowledged Indian land ownership, they did provide the natives with the right to continue to occupy their villages. Indians were also introduced to farming, and although both farming and cattle grazing had a devastating effect on the native habitat, the farming experience itself provided Indians with the skills necessary to survive in the upcoming years. During this period, many native people also learned crafts that helped them find employment once the Americans arrived.

Following Mexico's independence from Spain in 1821, there was a shift in the entire approach to Indian policy taken by the government. "In 1825 Lt. Col. Jose Maria Echeandia was appointed in Mexico to be governor of California and when he came north he brought with him new ideas of Mexican republicanism. . . . He also wished to abolish the missions. . . . In 1834-1836 Governor Jose Figueroa was finally forced by the Mexican government . . . to commence the formal secularization of the missions." (Forbes, 1969:39) The process of secularization provided that one half of the mission property would go to support the Indians, and half to support the priests and other officials. During this time, "the entire economy of the Mexican colony now shifted from the missions to the large landed estates of wealthy Mexicans." (Heizer, 1978:105)

As government emphasis changed from a mission approach to private enterprise, large land grants were given to Mexican citizens. This was necessary in order to put additional lands under Mexican rule. Naturalized citizens including John Marsh, John Sutter, John Bidwell, and others were awarded large land grants to settle for Mexico. "During the years 1830 to 1846 the interior native population suffered more extensively from brutality and violence than might perhaps be anticipated. Violence was a critical factor among tribes that resisted. . . One such filibustering expedition was led by Jose

Maria Amador in 1837. . . According to Amador, his party:

' . . . invited the wild Indians and their Christian companions to come and have a feast of pinole and dried meat . . . the troops, the civilians, and the auxiliaries surrounded them and tied them up . . . we separated 100 Christians. At every half mile or mile we put six of them on their knees to say their prayers, making them understand that they were about to die. Each one was shot with four arrows. . . . Those who refused to die immediately were killed with spears. . . . We baptized all the Indians (non-Christians) and afterward they were shot in the back.'" (Heizer, 1978:105-106)

However, disease had a much greater effect on Indians than any act of violence. During this period, smallpox and scarlet fever had a devastating effect on the native population, killing thousands.

With the ranchos came a need for a labor force. Much like the missions, the ranchos used Indians to meet this need. Major landowners took advantage of the lack of unity among Indian groups. For example, they would make pacts with one Indian group, then require them to bring in other Indians to serve as laborers. Once the landowners had organized their labor force, they would exchange labor with other ranchers. Thus developed a system of labor that was virtually cost-free.

Another example of how Mexican landowners worked this labor system to their advantage is the case of Charles Weber. In 1845, Weber purchased William Gulnac's interest in a ranch in the area now known as Stockton. For 200 pesos, Weber purchased the land which Gulnac could not settle because of Indian resistance. On his arrival, he employed the same system John Sutter had used and made a pact with an Indian leader, Jose Jesus, an ex-mission neophyte. Jesus provided Weber with labor in exchange for goods. This type of arrangement became increasingly advantageous to Indians, because if they did not enter into a pact, the landowners would raid their villages and take the labor they needed anyway.

In February 1848, the Treaty of Guadalupe Hidalgo ceded sovereignty of Mexican lands, including California, to the United States. However, before the constitutional ideology of the American government could take effect here, the discovery of gold turned California into a land of confusion. After James Marshall's initial discovery, John Sutter and Charles Weber used Indians to mine the precious ore. As news of the discovery spread and more Europeans arrived in California, the Indians were soon forced out of mining. Initially, a group of men from Oregon ran the Indians out of the mines because they believed the jobs rightfully belonged to White men. With the miners' search for gold, the Sierra and other remote areas where Indians had retreated became prime locations for establishing claims. The dramatic rise in the White population during this era all but ensured the end of the claim to California by the Indians.

In summary, this era saw the beginning and the end of the mission period. Because of disease, homicide, and loss of their native environment and food sources, the Indian population in California decreased from 310,000 to approximately 100,000. With the secularization of the missions, the Indians were confronted with new problems of private ownership. In 1848, California

came under the authority of the United States, and just as the Indians were becoming accustomed to the rancho system, the gold rush brought about a new era of Indian-settler relations.



Sierra Mono Museum, Madera County

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A History of American Indians in California: 1849-1879

Before 1845, the Spanish/Mexican population of California numbered only a few thousand. But by 1849, during the gold rush, the non-Indian population of California had grown to 100,000. The Indian population was already in a weakened condition, suffering from disease and lack of food, and from violent confrontations with the new landowners. Once the Americans arrived, California Indians were at an even greater disadvantage. With the lure of instant wealth in front of them, the new settlers wanted little to do with the Indians. The American approach to dealing with the Indians was summed up best by California historian Hubert Howe Bancroft:

That part of the early intercourse between aboriginal Americans and European which belongs to history may be briefly given, short work was made of it in California. The savages were in the way; the miners and settlers were arrogant and impatient; there were no missionaries or others present with even the poor pretense of soul saving or civilizing. It was one of the last human hunts of civilization, and the basest and most brutal of them all. (Bancroft, 1963a:474)

"The Indians had a precisely balanced relationship with their food supply. Soon after the arrival of the Americans serious depletion of that supply began to occur: mining operations adversely affected salmon fishing and destroyed fish dams." (Heizer, 1978:108) On the Americans' arrival, the large ranchos were broken up, and the new, more numerous landowners on smaller parcels of land were less tolerant of Indians. The small ranchos were farmed and grazed more intensively, and this caused an even greater reduction in the Indians' natural food supply. Jobs once belonging to Indians, especially skilled jobs, were taken by Whites.

We need only look at the early record of the California Legislature to understand the relationship of the Americans to the native population during this era. At the first State Constitutional Convention, those assembled voted to eliminate the Indians' right to vote because they feared the control Indians might exercise. In 1850, An Act for the Government and Protection of Indians was enacted by the first session of the State Legislature. This law set the tone for Indian-White relations to come.

The act provided for the following:

1. The Justice of the Peace would have jurisdiction over all complaints between Indians and Whites; "but in no case shall a white man be

convicted of any offense upon the testimony of an Indian or Indians."

2. Landowners would permit Indians who were peaceably residing on their land to continue to do so.
3. Whites would be able to obtain control of Indian children. (This section would eventually be used to justify and provide for Indian slavery.)
4. If any Indian was convicted of a crime, any White person could come before the court and contract for the Indian's services, and in return, would pay the Indian's fine.
5. It would be illegal to sell or administer alcohol to Indians.
6. Indians convicted of stealing a horse, mule, cow, or any other valuable could receive any number of lashes not to exceed 25, and fines not to exceed \$200. (It should be noted that the law provided that abusing an Indian child by Whites was to be punished by no more than a \$10 fine. It is hard to compare the penalty with the crime.)
7. Finally, an Indian found strolling, loitering where alcohol was sold, begging, or leading a profligate course of life would be liable for arrest. The justice, mayor, or recorder would make out a warrant. Within 24 hours, the services of the Indian in question could be sold to the highest bidder. The term of service would not exceed four months.

This law was widely abused with regard to the use of Indians as laborers, though it did allow Indians to reside on private land.

During 1851 and 1852, the California Legislature authorized payment of \$1,100,000 for the "suppression of Indian hostilities. Again, in 1857, the Legislature issued bonds for \$410,000 for the same purpose." (Heizer, 1978:108) While theoretically attempting to resolve White-Indian conflicts, these payments only encouraged Whites to form volunteer companies and try to eliminate all the Indians in California.

In 1860, the law of 1850 was amended to state that Indian children and any vagrant Indian could be put under the custody of Whites for the purpose of employment and training. Under the law, it was possible to retain the service of Indians until 40 years of age for men and 35 years of age for women. This continued the practice of Indian slavery and made it legal for Indians to be retained for a longer period of time and be taken at a younger age.

In 1862, the *Alta California* reported: "Little more than a hundred miles from San Francisco, in Mendocino County, the practice of Indian stealing is still extensively carried out. Only recently, George H. Woodman was caught near Ukiah with sixteen Indian children, as he was about to take them out of the county for sale. It is well known that a number of men in that region have for years made it their profession to capture and sell unfortunate juveniles, the price ranging from \$30 to \$150 depending on their quality." (Harrison, 1966:4)

This was not an isolated situation. U.S. Agent George Hanson reported: "A band of desperate men have carried on a system of kidnapping for two years past. Indian children were seized and carried into lower counties and sold into virtual slavery. . . . The kidnappers follow at the heels of the soldiers to seize

these children when their parents are murdered to sell them at the best advantage." (Balin, 1971:18) When there was no other way, there was "a class of whites who systematically killed adults to get their children." (*Ibid.*, p. 19)

The other practice that provided much of the labor force, especially in southern California, was to have city officials pick up Indians as vagrants. These officials would then turn the Indians over to the ranchers and other people who needed laborers. This was all done under the provisions of the 1850 law. After four months or some other term of service, the employer would return the Indians to the city, usually to a place where alcohol was served. Shortly after their return, the Indians would be picked up once again as vagrants, and returned to the labor force.

These types of activities occurred until 1866, when, to comply with the 14th Amendment of the United States Constitution, the State Legislature repealed the law. The 14th Amendment provides that no state should infringe on any citizen's "privileges or immunities" nor "deprive any person of life, liberty, or property without due process of law," nor deny to any person "the equal protection of the law."

While the state was enslaving and eliminating California natives, the federal government, in 1851, appointed three commissioners to negotiate treaties with California Indians. By 1852, 18 treaties had been negotiated with 139 tribes. The treaties were negotiated because the federal government perceived Indian tribes as foreign nations, and treaties were the legal means for developing an agreement and ensuring peace with them. The 18 treaties set aside 7,488,000 acres of land, or approximately one-third of California, for Indian use. This land settlement was similar to that negotiated with other tribes in other states. The treaties also provided funds for materials and food to allow the Indians to become self-sufficient. The treaties met with hostility in California. On January 16 and February 11, 1852, the State Senate concluded that the treaties "committed an error in assigning large portions of the richest mineral and agricultural lands to the Indians, who did not appreciate the land's value." (Ellison, 1925:4-5) The legislature instructed the United States senators from California to oppose ratification of the treaties, and called for the government to remove the Indians from the state as they had done in other states.

In February 1852, President Millard Fillmore submitted the 18 treaties to the United States Senate for ratification. The California senators were recognized and the Senate went into secret session to discuss the treaties. During this session, the Senate failed to ratify the treaties, and by order, they were placed in secret files, where they remained for the next 53 years. In 1871, the United States Congress declared that it would no longer negotiate treaties with American Indians.

Although the United States Government failed to ratify the treaties, it did continue the policy of setting up reservations and moving the Indians to them. However, no attempt was made to negotiate new treaties. In 1852, while not acknowledging any claims of California Indians to the land, the United States appointed Edward F. Beale as the first Superintendent of Indian Affairs in California. Beale's plan was to establish five reserves on which the Indians would reside. Congress appropriated \$250,000, and in September 1853, Beale gathered some 2,000 Indians and established the 50,000-acre Tejon Reserve. By focusing all his effort at Tejon, Beale neglected some 61,000 hungry

natives. "Beale declared that humanity must yield to necessity, they are not dangerous, therefore they must be neglected." (Heizer, 1978:110) In 1854, Beale was removed from his post. However, based on the information he acquired as superintendent, Beale eventually gained control of the reservation land.

Congress appointed Col. Thomas J. Henley as the new superintendent in 1854. Henley, following Beale's original plan, established the Nome Lackee Reservation; Nome Cult, Mendocino; Fresno Indian Farm; and Kings River Indian Farm. However, Henley did not act in the best interest of California Indians. The reservations suffered from lack of water. Squatters grazed their cattle on the unfenced land and destroyed crops that were being raised to support the Indians. "Most of these squatters were business partners or relatives of Henley and, therefore, impossible to remove." (Heizer, 1978:110) It is important to note that all of these early reserves eventually left federal ownership, and the Indians who resided on them were once again forced to move to other lands to make new homes. Every time Indians were removed, the commissioners prospered.

In 1870, in an attempt to get away from corrupt superintendents and to convert the Indians to Christianity, the federal government turned over operation of the reservations to the Quaker Church. In California, the Methodists, Baptists, and other churches eventually took on management of the reservations. While the new management was not corrupt and was far better for the general welfare of the Indians, the church was less tolerant of Indians continuing their traditional beliefs. Thus, the reservations became missions and the first tools under American control to be used in assimilating Indians into the general population. Once again, California Indians were confronted with change and forced to adapt from being prisoners-of-war to being wards of the church.

The 1870s saw two other important events in California Indian history. The first event centered on a Nevada Indian prophet who proclaimed that the end of the world was near. "The most consistent manifestation of this resurgence of native religion was the belief the end of the world was near and that the dead would return with the disappearance of the whites." (Heizer, 1978:113) Part of the effort in the attempt to eliminate the Whites was to sing and dance the traditional songs. While the prophet's dreams were never realized, the Ghost Dance, as it was called, spread throughout much of California. While the return to religious activities did not result in the return of the dead, it did encourage traditional activities among the California Indians. The second event was the Modoc War of 1872-73. A group of Modoc Indians, led by Captain Jack, fought the United States Army from a lava bed stronghold. Even though the Modocs were greatly outnumbered, it took the army more than a year to squash the rebellion. This was the last armed resistance by California Indians.

In 1872, the California Constitution was amended to allow Indians to testify in courts of law. Up to this point "his testimony was not admissible in evidence. Not being a reservation Indian, he could not appeal to the United States courts, and, [was] ignored by both State and Nation. . . ." (Northern California Indian Association, 1906)

In summary, this period saw the establishment of California as a state. With statehood, laws were passed that infringed on the rights of Indian people to occupy their homelands, and caused them to be used much like slaves. It was

not until the enactment of the 14th Amendment that these rights were restored. Treaties were negotiated and rejected; reservations established, dissolved, and reinstated; and Indians were still in a period of unrest.



Kindergarten class at play [circa 1900]

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History



A History of American Indians in California: 1880-1904

In the 1880s, there was increased public awareness of the problems California Indians were confronting. While the problems were rarely analyzed, many people helped to improve the quality of life for Indians. There was an effort to improve the education of Indians through schools, and to provide them with land to better their economic conditions so that Indians could become full citizens of the United States of America.

In the early 1880s, Helen Hunt Jackson wrote *A Century of Dishonor* and sent a copy of her book to each United States congressman. She was then appointed to a commission to examine the condition of Indians in Southern California. Her visits resulted in *The Report on the Condition and Needs of the Mission Indians of California*, by special agents Helen Jackson and Abbot Kinney. The report summarized the problems and concerns of Southern California Indians; many of the conditions outlined in the report, however, were applicable to all California Indians. The report noted that Indians had been continually displaced from their land. She also noted that while many Indians had taken "immoral" paths, others had chosen the responsibilities of herding animals and raising crops. In her report, she also noted that the United States government had done little to right the wrongs of the past. While Jackson did not solve all the problems of Southern California Indians, her work did bring their concerns to the attention of the American public and Congress.

One recurring concern was the lack of education and training necessary for survival in American society. The government, as well as Jackson, saw education as a way of assimilating Indians into the mainstream of United States society. Reports from the Secretary of the Interior and the Bureau of Indian Affairs at that time expressed the goals of the government in relation to the educational process. In 1908, one report stated, "the rooms held three or four each and it was arranged that no two tribes were placed in the same room. This not only helped in the acquirement of English, but broke up tribal and race clannishness, a most important victory in getting Indians toward real citizens." (Spicer, 1969:235) An earlier report stated, "I can see no reason why a strong government like ours should not govern and control them [Indians] and compel each one to settle down and stay in one place, his own homestead, wear the white man's clothing, labor for his own support, and send his children to school." (Spicer, 1969:236) Other people had even stronger ideas. For instance, George Ellis, in his book, *The Red Man and the White Man in North America*, wrote, "The Indian must be made to feel he is in the grasp of a superior." (Ellis 1882:572) In opposition to this view, the Indian Rights Association was formed in 1882. This Indian advocate group would play a

powerful role in formulating Indian policy in upcoming years.

While the approaches differed, all agreed that education was necessary. "In California, three types of educational programs were established for native peoples. The first was the Federal Government reservation day school. The second type was the boarding school, fashioned after Carlisle. And finally, the nearby public school that allowed Indians to attend began a slow, though steady, increase in popularity among policy makers." (Heizer, 1978:115) While the public schools seemed the best alternative, most Indians did not have the right to attend these schools until the 1920s.

In 1881, an elementary school system for Indians was established in California. However, the Indians soon recognized that the schools were a threat to their culture, as well as to the tribe as a political unit. "As a result, considerable resistance to the schools developed. Native peoples destroyed the day school at Potrero in 1888, and burned the school at Tule River in 1890. At Pachanga, a Luiseno named Ventura Molido, burned the school and assassinated the school teacher in 1895." (Heizer, 1978:115) Much of the destruction and violence could have been avoided if the school system and the government had recognized the great importance the Indians placed on being able to maintain their cultural beliefs. In 1891, school attendance was made mandatory. But while attendance was mandatory, there were still Indian children who did not attend.

In 1901, the first Indian hospital in California was established at Sherman Institute in Riverside. Sherman later became a boarding school for Indian children. While hospitals and other facilities improved conditions for California Indians, most Indians were still without homes.

During this period, another major focus was on the acquisition of land for Indians. Probably the most interesting example of the way land was acquired is evidenced by the Yokayo Pomo in 1881: "After collecting nearly \$1,000 from their people, the head man selected a 120-acre site near the Russian River and made the down payment. The Yokayo groups prospered; they paid the entire balance owed on their land, and even saved enough to purchase farm machinery shortly thereafter." (Heizer, 1978:118)

A major tool the government used in trying to assimilate Indians during this time was the General Allotment Act of 1887, also known as the Dawes Act, which appeared to be generally advantageous to Indians. However, the major intent of the act was to break down the role of tribal government. The act itself provided that each Indian living on a reservation would receive a 160-acre allotment of land per family unit, and each single man would receive 80 acres if the reservation had enough land. If there was not enough land, other provisions were made. Indians not residing on a reservation would be entitled to settle on any surveyed or unsurveyed government lands not appropriated. The lands allotted would be held in trust for 25 years by the Bureau of Indian Affairs. If all other provisions of the act were met, that is, if the Indians made use of the lands for agriculture and became self-sufficient, then the land would become the property of the individual. "Native people understood full well the implications of allotment and offered considerable resistance. Nevertheless, the Bureau of Indian Affairs began ordering allotments of various sizes at Rincon, Morongo, and Pala Reservations in 1893. . . . The next year, allotments were begun at Round Valley Reservation. By the turn of the century, 1,614

individual allotments were made among eight reservations in the state." (Heizer, 1978:117)

Long before the passage of the Dawes Act, people recognized that problems would occur from its implementation. In 1881, Senator Henry Moore Teller of Colorado spoke in opposition to an earlier form of the Allotment Act. Senator Teller concluded, "If I stand alone in the Senate, I want to put upon the record my prophecy in this matter, that when 30 or 40 years shall have passed and these Indians shall have parted with their title, they will curse the hand that was raised professedly in their defense to secure this kind of legislation, and if the people who are clamoring for it understood Indian character and Indian laws, and Indian morals, and Indian religion, they would not be here clamoring for this at all." (Spicer, 1969:234) The senator would soon be proven correct.

Other Indians, such as the Cupenos from Warner Springs, chose to fight for their lands in the courts. With the assistance of the Indian Rights Association, they began a suit to stop their eviction from their home at the Warner Ranch. In 1888, they won a favorable decision which temporarily stopped their eviction. However, the case was appealed to the United States Supreme Court, and in 1903, the Cupenos were evicted from their home.

Still other Indians chose to purchase land which was once theirs and reside on it. However, not every transaction was fair. In 1904, the *San Francisco Chronicle* reported that Indians who bought land from Whites were being dispossessed by the heirs of the granters, who gave no valid titles. "The Northern California Indian Association reported that about 10,000 Indians lived on land to which whites hold title. They were subject to eviction 'at any time.' The Indians are recognized for what they are not, usually competent to compete with white men in economic struggle. . . . Congress should buy lands for Indians in locations where they now are and allot them small farms in severalty. . . . It is also asked that their status as to citizenship be satisfactorily established. This petition is now before congress. It should be granted for justice and honesty. . . ." (*San Francisco Chronicle*, 1904).

The struggle for homes would continue.



Smith River Shaker Church, Del Norte County

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History



A History of American Indians in California: 1905-1933

In 1905, Indians became more involved in matters concerning them. With the rediscovery of the 18 lost treaties, Indians and their supporters began a drive for land, better education, the rights of citizenship, and settlement of the unfulfilled treaty conditions. This period held victories for Indians as well as the beginning of many battles that would take a long time to resolve.

"Senate action on the treaties was secret. And thus the matter rested, gathering dust in the archives of the government until clerks working in the secret Senate files found the slumbering treaties. That was in 1905." (Footnight, 1954:24) Thus the California land claims case began. As early as 1909, the Commonwealth Club of San Francisco was looking into the matter of Indian rights under the 18 treaties. "And in 1924 a special section on Indian Affairs was formed for the purpose of making a complete study of the rights, wrongs, and present condition of California Indians." (Johnson, 1966:36)

"Another group that was active in this area was the Native Sons of the Golden West. Study committees were formed and publicity as to the needs of the California Indians appeared in its magazine, *The California Grizzly Bear*. In 1922 and again in 1925, there were articles of real importance in arousing public opinion. There were many other groups active in the cause of the California Indians: among them were the Indian Welfare Committee of the Federated Women's Clubs, the California Indian Rights Association, Inc., the Northern California Indian Association, the Mission Indian Federation, and the Women's Christian Temperance Union." (Johnson, 1966:36)

"The early 1920s witnessed the evolution of the powerful Mission Indian Federation in southern California. The Federation was headed by a White man, Jonathan Tibbets of Riverside, but like the Indian Board of Cooperation, the Federation had a large body of Indian members. Non-Indians dominated many meetings and urged the membership to follow their advice. However, the Bureau of Indian Affairs soon grew intolerant of all these Indian concern groups and provoked an incident that persuaded many people that Indian grievances were indeed legitimate. 'At the Federal meetings expressions of ill will or hostility to the government were occasionally heard. Grievances were aired and complaints, both legitimate and trivial, were uttered. As a result and under orders of the Department of Justice, some 57 Indians were placed under arrest on the charge of conspiracy against the government. Upon arraignment they were dismissed without bail.' " (Heizer, 1978:715)

Another organization which has already been mentioned was the Indian Board of Cooperation. The board was founded in 1910 by a Methodist minister,

Fredrick Collett. "The policy of the Board is to encourage the Indians to do for themselves everything that they can, and to assist them in the doing of these things that they can not do without help." The Board's objectives included organizing Indians, obtaining passage of a bill so Indians could present their claims to the United States Court of Claims, obtaining legal services, ensuring funds appropriated for Indians be used for the Indians' best interest, and promoting all movements intended to enhance the welfare of Indians. (*California Indian Herald*, Vol. 1, No. 1, 1923:11) In 1919, the board established auxiliaries which were small Indian organizations that acted on the local level and raised funds for the board through memberships and special events. The Indian Board of Cooperation assisted Indians on many issues over the next decades. By May 1924, the board boasted 88 auxiliaries, with a membership of 10,400. (*California Indian Herald*, 1924:2) While Indians could belong to the auxiliaries, the board was made up of Whites. Most of the funds the board used for operation were obtained from Indians who paid between four and six dollars each to be members. Thus, much of the cost of financing the early land claims case came from Indians themselves.

California Indians obtained the opportunity to file in the United States Court of Claims when the Indian Board of Cooperation assisted in filing what came to be known as the "Test Case." "The suit is brought as a test case to establish the rights of all tribes and bands of California Indians whose lands were taken from them without fair compensation." (*California Indian Herald*, 1923:4) The case involved 1,008 square miles located in the Klamath National Forest, in Humboldt and Siskiyou counties. The case asked what legal rights the government had to the land. While the Indians never won back the land in question, the case did raise an important question: Did Indians have a right to redress for the lands lost?

In 1927, the California Legislature enacted "An act to authorize the attorney general to bring suit against the United States in the court of claims in behalf of the Indians of the State of California in the event that the Congress of the United States authorizes the same." (Johnson, 1966:37) For the first time, California Indians had the support of the California Legislature in their effort to seek redress for the settlements made in the 18 treaties that were not ratified.

In 1928, the United States Congress passed the California Indian Jurisdictional Act, also known as the Lea Act. The law provided that ". . . by defining California Indians as those who resided in the state on June 1, 1852 and their descendants now living in the state. . . . All claims of whatsoever nature of the Indians . . . be submitted to the Court of Claims by the Attorney General of the State of California acting for and on behalf of said Indians . . . with the right of either party to appeal to the Supreme Court of the United States. . . . It is hereby declared that the loss to said Indians on account of their failure to secure the lands and compensation provided for in the eighteen unratified treaties is sufficient ground for equitable relief . . . the value of any lands so granted could not be in excess of \$1.25 per acre. (Johnson, 1966:37) The law signified the legal beginning of the land claims case. "While the Lea Act had, as indicated, some undesirable features, it was a step forward, as it was the first act of Congress of this nature after twenty years of effort." (Johnson, 1966:35)

"With the rediscovery, in 1905, of the 'lost' treaties of 1851, public opinion began to favor the Indians. Between 1906 and 1910, legislation was passed appropriating funds which were used to purchase many small tracts of land in

central and north central California for the landless Indians of those areas. These tracts today are the bulk of those Indian lands known as 'rancherias.' " (Bureau of Indian Affairs, 1966:13) While the act provided lands for many Indians, still others had to go to the legislature to ask for help. A 77-year-old Pit River man stated: "My people are homeless. They are driven from place to place by the white men on whose property they seek refuge. The Washington Government does not aid us. Our children are not wanted in the schools. We have no medical aid for our sick. We have no implements, nor lands for farming. My people are willing to work. Give us a place in the desert and we will be happy." (*California Indian Herald*, 1923:13) So even in the 1920s, the problem of homeless Indians continued though the issue of land was at last being addressed.

The lack of land was not the only problem confronting Indians. "General conditions in the Far West were far from good in 1919-1920, after more than a half-century of conquest. McDowell wrote in 1919 of the majority of California Indians 'that more than all else, they have for generations been treated by their white neighbors as an inferior people and have been accepting that appraisal quite as a matter of course. . . . They get their own living with the work of their own hands. . . . With apparently few exceptions, the California Indians are seasonal, or casual, work people. The earning time for the great majority is the growing seasons. . . . [Others] of them find employment in sawmills, on the surface of mines, in logging camps, and on railroads and public roads. During sheep shearing season these Indians are in demand. . . . They herd cattle, milk cows, and do general farm labor. The women who live near cities and towns go out by day as domestics and laundresses.'" (Forbes, 1969:74) The general welfare of California Indians continued to be poor, but they resumed their efforts to gain civil rights.

Indians began to view education differently in this era. Much of this change in attitude may have derived from the support groups that assisted them. While many Indians continued to attend boarding schools and day schools, more Indians began to attend public school in California. "In 1915 only 316 Indian pupils were attending public school in California but by 1919 this number had increased to 2199." (Forbes, 1967:73) In 1917, the federal government decided to have Indians attend public schools. Even after this policy was adopted, however, the right to attend public school was not granted to every Indian child. "Between the 1920's and early 1940's, the Bureau of Indian Affairs ceased to have any appreciable role in California-Nevada Indian education, thanks in great measure to Indian efforts to establish local public schools or to gain admittance to existing schools. The latter was facilitated by the case of Piper vs. Big Pine School District (1924) in which Indians won the right to attend public schools." (Forbes, 1969:118)

In 1917, a major victory for Indians occurred when the California Supreme Court decided that California Indians were citizens. In 1922, 50 Hoopa Indians took advantage of citizenship and voted in the general election. They had to travel 24 miles to do so, but "for the first time in their history voted as free-born American citizens." (*California Indian Herald*, 1923:14). While California Indians had been acknowledged as citizens, it was not until June 2, 1924 that the Indian Citizenship Act was passed. Among other things the Indian Citizenship Act contained one provision of special interest to California Indians: "That the granting of such citizenship shall not in any manner impair or otherwise affect the right of any to tribal or other property." The granting of

citizenship came 100 years after the Indians were first granted citizenship by the Mexican government. It also came after more than 10,000 Indians had fought in the First World War.

The granting of citizenship in 1924 should have guaranteed Indians their First Amendment right of religious freedom. However, as late as the 1920s, the Bureau of Indian Affairs made a deliberate effort to control and in some cases eliminate the Indians' ability to practice their religious beliefs. "On April 26, 1921, during the Secretaryship of Albert B. Fall, Commissioner Charles H. Burke of the Bureau of Indian Affairs addressed to all Indian Superintendents (Indian Agents) a document called Circular 1665. He stated: 'The sundance and all other similar dances and so called religious ceremonies are considered 'Indian Offenses' under existing regulations and corrective penalties are provided. I regard such restrictions as applicable to any (religious) dance which involves . . . the reckless giving away of property . . . frequent and prolonged periods of celebration . . . in fact, any disorderly or plainly excessive performance that promotes superstitions, cruelty, licentiousness, idleness, danger of health, and shiftless indifference of family welfare. In all such instance, the regulations should be enforced.'" (Indian Defense Association of Central and Northern California)

On February 14, 1923, a supplement to Circular 1665 was issued. Some of the main features of the amendment were that "Indian dances be limited to one day in the midweek and at one center of each district; the months of March, April, June, July and August being exempted (no dances in these months). That none take part in the dances or be present who are under 50 years of age. That a careful propaganda be undertaken to educate public opinion against the (Indian religious) dance." (*Ibid.*)

"Then on February 24, 1923, the Commissioner broadcasted a 'Message to All Indians.' It read: 'I could issue an order against these useless and harmful performances, but I would rather have you give them up of your own free will, and, therefore, I ask you in this letter to do so. If at the end of one year the reports which I receive show that you are doing as requested, I shall be glad, for I shall know that you are making progress — but if the reports show that you reject this plea, then some other course will have to be taken.'" (*Ibid.*)

The restriction on religion led John Collier to write: "Now today, this late date, the Indian Bureau has commenced a new onslaught. The Indians are deeply and universally religious. They still know how as tribes to follow ancient paths leading to the water of heaven. United in this life of religion, they can still stand up together as men, and they can still cling to their coveted remnants of soil. They can resist the efforts to turn them into drifting social half-breeds slave-driven by 6,000 Indian Bureau job holders who make their living 'civilizing' the Indians. Therefore, an actual inquisition shall be elaborated against their adult worship. Their treasure of the soul which no man yet has known enough to be able to estimate shall be forcibly thrown away; their last liberty and last dignity and their end of life, which they know to be God, shall be denied." (*Ibid.*)

So the passing of the Citizenship Act in 1924 meant much more than the right to vote; it meant that all constitutional guarantees would be afforded to this country's first inhabitants. While freedom of religion is one of those rights, it was more than 50 years before the Indians' constitutional right of religion

would be guaranteed.



Old School House at Ft. Bidwell, Modoc County

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History



A History of American Indians in California: 1934-1964

During the next three decades, California Indians continued to experience ups and downs. In 1934, two major pieces of legislation were enacted that affected California Indians: the Indian Reorganization Act and the Johnson-O'Malley Act. Of these, the Indian Reorganization Act probably had the more far-reaching effects. First, the act provided for keeping Indian land in trust; it returned to the tribe reservation land that remained surplus after allotments; and it restricted the granting of rights-of-way over reservation lands, restricted release of lands, and provided for the Secretary of the Interior to purchase inholdings in the reservation for Indian use. The act also ordered that forests on Indian lands be managed on a sustained-yield basis, authorized \$250,000 to defray the expenses of organizing Indian-chartered corporations or other organizations under the act, and provided \$10,000,000 for a revolving fund to promote economic development. Finally, the act provided for loans to Indians to attend trade or vocational schools.

"The viewpoint underlying the Indian Reorganization Act of 1934 was most fully and clearly expressed by John Collier, as in this memorandum written while he was Commissioner of Indian Affairs in 1943: 'I see the broad function of Indian policy and Indian administration to be the development of Indian democracy and equality within the framework of American and world democracy. . . . The most significant clue to achieving full Indian democracy with and as a part of American democracy, is the continued survival, through all historical change and disaster, of the Indian Tribal group, both as a real entity and a legal entity. I suspect the reason we do not always give this fact the recognition it deserves is that we do not want to recognize it. . . . Congress through the Indian Reorganization Act, invoked the tribe as a democratic operational mechanism. . . . We can divest ourselves of the lingering fear that tribalism is a regression, and we can look upon it as a most important single step in assimilating Indians to modern democratic life. . . . Indians have the right of self-determination. . . . The Indian office is moving from guardian to advisor from administrator to friend in court (Spicer, 1969:247-248)

The Indian Reorganization Act was based on the assumption that the way to assimilate Indians into American society was to have tribal government work as a democracy, much as the United States government operates. This was a reversal in attitude from the Dawes Act of 1887, which attempted to disband Indian tribal organization. However, both acts sought in different ways the goal of Indian self-determination.

Another important piece of legislation was "the Johnson O'Malley Act which provided federal funding to local school districts to pay costs for reservation

residents in lieu of local taxes." (Heizer, 1978:125) This act removed the only remaining argument against Indian children attending public schools. It also provided that Indian children no longer needed to be moved long distances from their homes and families to attend school, even though some still chose to do so.

Toward the end of World War II and immediately thereafter, Indians began to establish organizations. The major difference between these organizations and earlier ones was that Indians governed them. Three important organizations that were established were the Native American Church, the National Congress of American Indians, and the Federated Indians of California.

The Congress of American Indians was established "to enlighten the public toward a better understanding of the Indian people; to preserve Indian cultural values; to seek an equitable adjustment to tribal affairs and tribal claims; to secure and to preserve rights under Indian treaties or agreements with the United States; to promote the common welfare of the American Indian; and to foster the continued loyalty and allegiance of the American Indians to the flag of the United States. . . ." (Spicer, 1969:290)

The Native American Church was established for a much different purpose, the advancement of Native American religion. The reasons for its establishment are found in the church's preamble and articles of incorporation, which state, "Whereas, The 'human rights' of all citizens of our country are guaranteed and protected by amendment 1 to the Constitution of our country . . . this corporation is formed to foster and promote religious believers in Almighty God and the customs of the several Tribes of Indians throughout the United States in the worship of a Heavenly Father and to promote morality, sobriety, industry, charity, and the right living and cultivate a spirit of self-respect and brotherly love and union among the members (Spicer, 1969:288)

Finally, the Federated Indians of California was established for a very specific reason. "In 1944 the Court of Claims awarded the California Indian their first substantial judgment, netting them approximately \$5,000,000." (Bureau of Indian Affairs, 1966:13) However, in establishing the \$5,000,000 amount, the court followed the mandate of the Lea Act, which provided ". . . a gross recovery, the benefits which were to have been paid to only 1/3 to 1/2 of them under the 18 unratified treaties of 1851-1852. By this proposed settlement this figure is now established at \$17,816,624.48. From this figure must be deducted . . . the subsequent specific benefits granted by the government to all of the Indians . . . this amount is fixed at \$12,650,761.02." (Kenny, 1944:44) Benefits granted to the Indians included items such as thread, thimbles, needles, hoes, etc. However, the vast majority of the \$12,000,000 covered administrative costs of running the Bureau of Indian Affairs in California. Add to this those funds misspent early on, and it is easy to see that Indians actually received very little benefit from the \$12,000,000.

The proposed \$5,000,000 settlement caused an uproar. In response to the controversy, the government established the Indian Land Claims Commission in 1946. Because Indians were no longer willing to allow non-Indians to push the Indian cause, in 1947 the Federal Indians of California was founded. The group submitted an \$88,000,000 claim as a proposed settlement above and beyond the \$5,000,000 already awarded. The 100 delegates present adopted a resolution granting the executive committee the power to hire legal counsel and

press the claim. (Bureau of Indian Affairs, 1966:13)

Much of the activity occurring after World War II was the result of Indians being introduced to a wider perspective. "Now, war as we know it is a horrible thing, but the war did one thing for our Indian people as it did for so many representatives of many ethnic groups. It took them out of their environment, and it scattered them all over the world, as well as the United States, and they saw how the other half lived." (Harrison, 1966:11) Many Indians returned from the war more aware of the way in which governments worked. The war had shown them how the rest of the world lived, and they were no longer satisfied with what was previously theirs. Some returned to their groups with this newly developed knowledge, while others ventured out on their own.

Following World War II, a movement called "termination" began. Termination was to be a process of removing Indians and their land from federal trust. "After the war, as the United States spent millions of dollars rebuilding Germany and Japan, the government hoped to rid itself of its embarrassing failure to 'rebuild' Indian nations by simply withdrawing government aid to Indian people. This philosophy was expressed in the Hoover Commission survey of 1948." (Heizer, 1978:122)

The 1950s saw the beginning of the Hoover Commission's recommendation to initiate termination. "California Indian tribes were to be among the first targets for termination. The commissioner of Indian affairs who inaugurated this policy, Dillon Meyer, was principally known as the man responsible for administering Japanese-American concentration camps during World War II. In 1952, the Bureau of Indian Affairs began to energetically push termination: the Indian Service introduced to Congress several termination bills specifically for California, and in anticipation of that policy, the government ended all Indian Service welfare payments to pauper Indians in the state." (Heizer, 1978:122)

Also in 1950, the first \$5,000,000 settlement was distributed to Indians in California. "Congress finally adopted legislation providing \$150 for each California Indian (leaving a portion of the award still in the U.S. Treasury)." (Forbes, 1969:106) However, by 1951, 23 separate claims had been filed with the Indian Land Claims Commission for additional relief.

The first law that actually initiated termination was in the field of criminal justice. "In 1953 Congress passed Public Law 280, which brought California Indian Reservations under the criminal and civil jurisdiction of the state." (Heizer, 1978:122) Crime occurring on the reservation was no longer the responsibility of the United States government. This new law caused much confusion and resulted in poor protection for Indians on reservations. It was frequently reported that many county sheriffs would arrive three or four days late for emergency situations. In 1957, California Indians called unsuccessfully for repeal of the act.

In late 1952, another issue was brought to the attention of the public. "Twenty-two young Indians, veterans of World War II and Korea, claimed they cannot buy shaving lotion because it contains alcohol. They have formed an Indian Right Organization to fight what they call 'this new menace to the Indian.'" (*Sacramento Bee*, Dec. 29, 1952, p. 1) However, this was not the first time that the problem had been brought to the attention of the government. In 1946, Indians, in a hearing in Eureka, requested that the prohibition against the sale

of alcohol to Indians be lifted. In April 1953, Governor Earl Warren signed into law Senate Bill 344, which for the first time in 81 years made it legal for "full blooded Indians" to purchase alcohol. (*Sacramento Bee*, Apr. 9, 1953, p. 10)

In 1954, the process of termination moved closer to reality through House Resolution 108 the intent of which was "as rapidly as possible to make the Indians within the territorial limits of the United States subject to the same laws and entitled to the same privileges and responsibilities as are applicable to other citizens of the United States. . . . Indian tribes and the individual members thereof, located within the States of California [and other states] . . . should be freed from Federal supervision and control and from all disabilities and limitations specially applicable to Indians (Spicer, 1969:218)

"The California Legislature had endorsed the idea of termination in 1953 but during 1954 made an abrupt change, largely as a result of the hearings conducted by the State Senate Interim Committee on Indian Affairs. The committee found that most reservations were simply unprepared for termination, with a multitude of problems often including undefined boundaries, no roads, no water, no sanitation, substandard housing, and 2,600 complicated heirship cases. The state was unwilling to accept the financial responsibility for correcting the failures of bureau management and opposed the BIA [Bureau of Indian Affairs] termination legislation." (Forbes, 1969:112)

"In 1954, a conference of social scientists, mainly anthropologists, met under the chairmanship of former Assistant Commissioner of Indian Affairs John H. Provinse for the purpose of pooling their knowledge and bringing it to bear on federal Indian policy. A portion of the statement they produced follows. 'An assumption which seems to underlie the basic philosophy of much of the United States approach centers about the idea that assimilation of the American Indian into the normal stream of American life is inevitable, that Indian tribes and communities will disappear. There was complete agreement on the part of the discussants that this prediction is unwarranted. . . . Group feeling and group integrity among the American Indian are as likely to gain strength in the decades ahead as they are to lose it.'" (Spicer, 1969:249-250)

Again in 1957, the process of termination was initiated. "In 1957-58, the State Senate Interim Committee conducted another investigation and found that 'with minor exceptions . . . very little has been done to carry out the recommendations set forth in the [1954-55] report' to prepare Indian reserves for termination. In spite of that fact, the committee in 1957 recommended termination legislation. . . ." (Forbes, 1969:112-113)

In 1958, the Rancheria Termination Act was enacted. "The law provides for the distribution of all rancheria land and assets and directs that a plan be prepared for each rancheria outlining to whom and how the assets shall be distributed. Such a plan, when approved by the Commissioner of Indian Affairs, and accepted by the participant, becomes the operating program under which title is transferred from the Government to the Indians." (Bureau of Indian Affairs, 1966:16) While plans were developed and termination proceeded, many of the plans were not implemented. However, "In response to the pressures of termination, the land claims case, and other issues, on May 3, 1958, Inter Tribal Council of California (ITCC) was founded. The Council was the successor to the California Indian Congress, which was disbanded at the

formation of the new group. The purpose of ITCC is to protect Indian land ownership, preserve established privileges and immunities, and promote understanding and unity and preserve cultural values." (*Los Angeles Times*, May 5, 1958, pp. 4, 9)

In 1959, the problems with termination were temporarily forgotten. "In that year, the Indian Claims Commission issued an order stating that the Indians of California had aboriginal title, as of 1853, to approximately 64 million acres of California land west of the Sierra Nevada." (Bureau of Indian Affairs, 1966:20) A settlement of \$29,100,000 was awarded as redress. This amounted to approximately 47 cents per acre. The Indian Claims Commission approved the settlement in 1964, and Congress appropriated the funds that same year.



Indian Grinding Rock State Historic Park, Amador County

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A History of American Indians in California: 1965-1980

A new era for Indians was about to begin, and just as the social scientists had predicted in 1954, tribal governments and tribal identity did play an important role. "Nationally the civil rights movement ushered in an era of social consciousness among White Americans. In conjunction with the end of the claims and termination issues among native leadership, the climate was again ripe for reform in Indian affairs." (Heizer, 1978:716)

As previously mentioned, the Indian Claims Commission awarded California Indians \$29,100,000 as redress for land from which they had been evicted. While most California Indians eventually would accept the payment, some would not. Members of the Pit River and Feather River groups opposed the settlement. So, when the settlement was awarded, many Indian people were not satisfied with the 47 cents per acre they were to receive.

During the 1960s and 1970s, people who had not previously identified themselves as Indians began to do so. A new awareness was rising, and with this came an increase in the number of Indians listed in the census. However, another program that had an effect on the number of Indians in California was the Bureau of Indian Affairs (BIA) program of relocation. "During the war about 23,000 Indian men and 800 Indian women served in the armed forces, and an estimated 46,000 Indians left the reservation to find employment. Many remained to make California their home. Then, in 1950, the BIA established a job-placement program . . . [and] the program to assimilate Indians into the mainstream expanded from that point. Strangely, the BIA didn't keep records of its relocation program, but nearly 100,000 Indians were relocated to California between 1952-1968 to find employment lacking on reservations. . . . " (*Sacramento Bee*, Sept. 6, 1982, p. 23) Indian people who had lived on reservations were now faced with the new problems of living in an urban environment and the inability to find services. Many were just not ready to live in a city.

In 1964, a monumental case concerning Indian religion occurred in California. On April 28, 1962, a group of Navajos met in Needles to perform a religious ceremony in which peyote was used. Peyote is a drug derived from the buttons of the mescal cactus. The Indians were arrested and tried for violating the law which prohibited unauthorized possession of the drug. Judge Mathew O. Tobriner of the California Supreme Court issued the court's decision, In responding to a lower court's verdict, Tobriner wrote, "The court ruled to deny Indian use of peyote was a violation of their religious freedom. 'We preserve a greater value than an ancient tradition when we protect the rights of the Indian who honestly practices an old religion. . . .'" (35 CAL Reporter, 1964:708) At

this point, public consciousness began to recognize Indian religion and the value it had to the Indian people.

The year 1964 also saw the formation of the American Indian Historical Society by Rupert Costo, a Southern California Indian. "The AIHS was especially concerned with bringing an Indian viewpoint to bear upon historical writing but it also became concerned with many related issues including the white biases of school textbooks and the non-Indian orientation of school curricula." (Forbes, 1969:120) Since its formation, the society has published *The Indian Historian*, and from 1973 until recently, it published the *Wassaja*, an Indian newspaper.

The 1960s and 1970s brought the concept of Indian self determination to reality. Indian Self Determination is a program in which Indians determine their future through the development of policies that meet their needs as they have defined them. It is too early to say if the program is a success. However, an early example of Indians having control over their lives was evidenced in the California Indian Health Demonstration Project. "This project originated in the State Department of Public Health, Bureau of Maternal and Child Health in 1967. Nine projects were set up among reservation communities throughout the state. Funded by state and federal health departments, these pilot projects stressed Indian participation and control and have acted as a catalyst for community cooperation in bringing medical and dental services to rural and reservation Indians. . . . By 1973, sixteen projects had been set up. . . ." (Heizer, 1978:124) With the formation of the California Rural Indian Health Board in 1969, an Indian-controlled coordinating body took charge.

In 1967, the California Indian Education Association was founded. In October of that year, a conference in North Fork, California ". . . brought together about 200 Indians who thoroughly analyzed the problems involved in Indian education. . . . Basically, the North Fork Conference called for increased Indian involvement at all levels of the education process. It especially emphasized the role of the Indian family and community in the education of children and advocated the development of Indian-directed out-of-school educational projects. Stress was placed upon the value of the native heritage. The North Fork Conference also called for the restoration of Johnson O'Malley funds. . . ." (Forbes, 1969:121) With the formation of the California Rural Indian Health Board, the American Indian Historical Society, and the California Indian Education Association, California Indians were involved in the process of controlling their past, present, and future.

The acknowledgment of Indians continued in 1968 when Governor Ronald Reagan signed a resolution calling for the fourth Friday of each September to be American Indian Day in California. This acknowledgment has done much to inform the general public about Indian heritage and the problems that are confronted by Indians in California.

"Another important development since the 1960s was the creation of Native American studies departments at major universities in California. In the fall of 1969, Indian students at the University of California at Berkeley, Los Angeles, and Davis and at Sacramento State University demanded that these institutions begin programs and offer courses in Indian culture and history." (Heizer, 1967:125) Today, much valuable information has come from these programs. They have also assisted Indian students by providing them with needed

services, and have promoted a better Indian self-image.

"Indian land issues became international news in November 1969 when a group called Indians of All Tribes occupied Alcatraz Island in San Francisco Bay and held the site for nearly two years." (Heizer, 1967:716) "Within two months, the Pit River Tribe learned the lesson of Alcatraz." (Balin, 1971) On June 5, 1970, the Pit River Tribe issued a proclamation that stated: "We are the rightful and legal owner of the land. . . . No amount of money can buy the Mother Earth; therefore, the California Indian Land Claims Commission has no meaning. The Earth is our Mother and we cannot sell her." (*Ibid.*) Since then, the Pit Rivers have successfully reoccupied a number of pieces of land.

By 1970, the census showed that there were 91,018 Indians in California. This number did not differentiate between California Indians and Indians who came here from other states. In 1972, 120 years after the Indians signed the 18 lost treaties, 60,000 California Indians received \$633 each as compensation for land covered by the treaties. Some Indians refused the payment, and some failed to cash the check, but others who had waited for generations and had spent much time and money trying to resolve the issue accepted the payment. The land claims case was finally over.

Ten of the original terminated rancherias left Indian ownership by 1974. The same year, California reservation Indians filed and won a class action suit known as the Rincon decision. The suit charged that the Indian Health Service had not provided California Indians with health care comparable to that provided in other states. The U.S. District Court in San Francisco agreed. The State of California began to supplement federal Indian Health money in 1975, the first state to do so. (Heizer, 1978:126; *Sacramento Bee*, Sept. 6-7, 1981) In 1982, California Indians received most of the \$8,700,000 supplemental funds from the Rincon ruling award.

In 1976, the California Native American Heritage Commission was established. Since that time, the commission has assisted Indians in preserving cultural and religious sites important to them. By 1980, the number of Indians in California had grown to more than 201,000, more Indians than in any other state. Probably a little more than half of these are the descendents of aboriginal Californians. Their population is still far below the approximately 310,000 Indians living in California when Europeans first arrived on these shores.



Ya-Ka-Ama Indian School, Sonoma County

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A History of Black Americans in California: INTRODUCTION

This report, an historical overview of the Afro-American experience in California, was drawn from both oral and documentary accounts to identify and interpret significant Afro-American cultural resources. The study broadly covers the period from the Spanish and Mexican era through World War II, with the years between 1850 and 1940 examined in greatest detail.

To date, little factual information has been collected concerning Black presence in the decades immediately following statehood. There are few references to the experience of Black people either in nineteenth century local histories or in later and more scholarly interpretive histories. It is only recently that rural, poor, and ethnic minorities have been given serious consideration by American historians. Yet, despite scholarly neglect, the experience of Black Californians has been recorded in the memories of living people. And it is from these memories — both recollections and eyewitness accounts — that much of the historical data compiled in this report has been obtained.

Lay persons and scholars alike seem to believe that before 1940 there were virtually no Black people in the state. Contrary to these notions, although Afro-American people were comparatively few in number before World War II, they were settled throughout the state and made significant contributions to its development and growth. Population centers during the nineteenth century were located in the state's northern region. More than 60 percent of the Black persons in California counted in the United States Census of 1850 lived in Mother Lode mining towns. Within the decade of the 1850s, the population doubled and shifted away from the mines, so a mere 30 percent of the 3,721 Black persons enumerated in the 1860 census lived in the Mother Lode.

By 1900, 7,858 Black people lived in California, widely distributed among both northern and southern counties. Numerically small until the late 1940s, the group maintained a steady growth rate, although it never exceeded one percent of the total population. However, once the population center shifted to Southern California in the two decades before World War II, the growth rate in Los Angeles County alone doubled the rate for the entire state.

In this study, Black life has been examined from several perspectives: work experience, social organization, political status, and economic development. But these processes, like the social and political constraints on them, have been given only cursory consideration. Enough, however, has been done to unequivocally demonstrate the breadth in time and geographical space of the Afro-American experience and the availability of both archival and oral history resources for further study. Further research should be done in a timely

manner, since the most valuable resource for this type study, the living memories, are not timeless. Without the benefit of elderly Blacks' recollections and eyewitness accounts, many dimensions of the Afro-American contribution to California will never be known.



Clinton Chapel A.M.E., Episcopal Church, Stanislaus County

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History



A History of Black Americans in California: A.M.E. CHURCH

The presence of Black people in California dates back to the Spanish colonial expansion. When the Spanish expeditions to the Pacific Coast were being organized, Africans, present in Mexico by the sixteenth century, were recruited. Serving in various capacities, free men of African ancestry helped establish California missions and pueblos. They constituted 25 percent of Juan Bautista de Anza's 1775 expedition to San Francisco, and more than 50 percent of the colony established at Los Angeles in 1781.

In fact, the first non-Indian buried in Monterey was a Black man. Entry number one in the first *Book of Deaths* at the Mission San Carlos Borromeo, the second mission established in California and the first in Northern California, was a Black man, Alex Nino.

Under Mexican rule, some Black persons who were naturalized Mexican citizens attained eminence in California. At the beginning of the American period, Richard Freeman, an Afro-American born in the eastern United States, joined the small American colony at San Diego. On February 10, 1847, Freeman bought the Ponciano property, a lot and a four room, one-story adobe building. There, he resided with Allen Light, the colony's other Afro-American, until his death in 1851. These men operated a profitable grog shop known as the San Diego House in the adobe during their four years' residence.

Not much is known about the association of these two men before the period of their San Diego residency, although there are a few records on Light's life. Light, a native of Philadelphia, was in New York by 1827, the year an affidavit was prepared certifying the 24-year-old man's free status. History records him as present in California sometime around 1835. Light deserted the ship *Pilgrim* that year to remain in the Mexican territory. Along the Pacific Coast, he quickly gained prominence as a sea otter hunter. Some of his activities have been recorded in Richard Henry Dana's book, *Two Years Before the Mast*. By 1839, Light was a Mexican citizen, commissioned by the Alcalde of Santa Barbara to enforce Mexican maritime law as it pertained to sea otter hunting. Light moved to Humboldt County sometime after Freeman's death and died there in 1881. Mary Light, whom he apparently married after leaving San Diego, died six years before her husband.

Black people also settled in the village of Yerba Buena on San Francisco Bay. William Alexander Leidesdorff, born in 1810 in the Virgin Islands to a Danish man and an African woman, was reputedly the wealthiest and certainly one of the village's most influential men. He achieved great prominence during his seven-year residence in San Francisco, through commercial and political

endeavors. In addition to San Francisco properties, Leidesdorff received Rancho Rio de los Americanos (later known as Folsom) in eastern Sacramento County as a Mexican land grant.

Following Leidesdorff's untimely death, the city fathers, as a tribute to their distinguished early citizen, staged an impressive funeral. However, a memorial befitting this famous pioneer was never erected in the city to which he made such a profound contribution.

Delegates to California's 1849 constitutional convention drafted a charter that created a non-slave state, yet they severely proscribed the civil rights of free persons of color. After admission to the Union, the California Legislature, in its first sessions, enacted further proscriptions in order to disenfranchise Black citizens. Black people had no right to: 1) testify in court against a White person; [1] 2) receive a public education; [2] 3) homestead public lands; [3] or 4) vote. [4]

California's Black leadership held conventions in several northern counties during the nineteenth century to develop political strategies and social programs designed to bring about a new political order. Four State Conventions of the Colored Citizens of California were convened between 1855-1865 in order to secure full citizenship. Sacramento's Bethel African Methodist Episcopal Church, the first Black church west of the Mississippi, hosted three of the four conventions. The fourth was held in San Francisco.

Born of political circumstances, the African Methodist Episcopal (A.M.E.) Church was the oldest Black church in the United States. In 1787, Richard Allen led the withdrawal of Black Methodists from the predominantly White Philadelphia congregation with whom the group had worshipped, and created a racially separate church. W.E.B. DuBois described that church as "the greatest Negro organization in the world," [5] an accolade earned through active involvement in secular affairs. Black theology, as the A.M.E. Church interpreted it, was inseparable from practical matters of liberation. Committed to combatting institutionalized prejudice and bringing about a new political order, the church made available financial support, meeting rooms, and an educated leadership wherever it emerged.

Whenever possible, new branches of African Methodism were organized. Thus, the church seized on the opportunity to establish African Methodism in California immediately following statehood.

Sacramento's A.M.E. Church formally established the A.M.E. Church of California, and for more than three decades it was the principal Black denomination in the state. A.M.E. churches emerged in various towns, built on the efforts of the church's educated leadership and the strength of its political program. By the time the Third Annual Convention of Ministers and lay delegates to the California Conference met in September 1863, substantial and comfortable houses of worship stood in Coloma, Marysville, Sacramento, Stockton, San Francisco, Grass Valley, and Nevada City. All that remains in most gold mining towns to designate the first sites of Black political activity are the words, "African Church," written across lots on nineteenth-century property maps.

The decision was made in 1854 for the first State Convention "to take into

consideration the propriety of petitioning the Legislature of California for a change in the law relating to the testimony of colored people in the Courts of Justice of this State." [1] Forty-nine delegates from 10 counties were present at the First Colored Convention of California, held in Sacramento's Bethel African Methodist Church November 20-22, 1855. The general assembly created an association with county auxiliaries and a \$10,000 discretionary fund to wage a formal statewide campaign against statutory disenfranchisement.

The right to testimony was virtually tantamount to free status. Without it, individuals could not protect personal status or property from either the allegations or assault of others. The Civil Practice Act, Section 394, which passed into law in 1852, made the testimony of a Black person in admissible in the courts when offered in cases involving a White person.



Allen Chapel A.M.E., Riverside County

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A History of Black Americans in California: EDUCATION

While the convention's primary objective was repeal of the law that deprived Black people of the right to testimony, education was also recognized as a key issue. Many delegates considered education to be the vehicle for change. Convention delegates spoke of education as "a quality, a means to dignify men, to enable them to command respect of their fellows and increase their intelligence and wealth." [7]

An education committee was created at the Second Convention, held at the same location in Sacramento, December 9-12, 1856. The education committee did much to secure educational opportunities for Black youth. A statewide committee of Black men selected by the Second Convention's general assembly spearheaded the campaign to repeal the 1852 law that barred Black children from the common schools. [8] Concurrently, it assisted parent groups trying to secure admission to their local common schools, and as an interim measure, it established private schools to provide immediate instruction.

The Black church, and particularly the African Methodist Episcopal Church of California (A.M.E.), through its missions and stations, opened the first schools. By 1854, both the Sacramento and San Francisco A.M.E. churches had set up classrooms in their basements. Actions taken by Black parents in local school districts precipitated a series of amendments to legislation concerning segregated schools. Incremental changes between 1852 and 1879 gave Black children legal access to a separate, although unequal, education. Statutory proscription of Black children's right to a public education was not repealed until 1880.

For a limited period in the 1850s, some school districts admitted Black children to common schools. When the Grass Valley Common School opened in 1854, three Black children were admitted. Parents, on learning that the presumably White children each had a Black parent, petitioned the trustees for their removal. The trustees refused, and the petition was forwarded to the State Superintendent of Public Instruction who invoked the 1852 statute and ordered the trustees to exclude the children or lose their state funding. The trustees refused. The superintendent, who at that time did not have the power to revoke funding, could not censor the trustees. The legislature soon amended the school segregation bill to give the State Superintendent censorship power. After 1860, the superintendent could indeed censor a district by removing its state funds.

Formal educational institutions housed in buildings outfitted as schools began to appear in the 1860s through efforts organized by Black communities and supported by their subscriptions. Private schools opened in towns like Nevada

City, Marysville, Oakland, San Jose, and Red Bluff. In 1864, the State Superintendent of Public Schools, John Swett, in his *Thirteenth Annual Report*, stated that there were 831 Black school-age children in California, and six state-supported "colored schools." Located in San Francisco, Sacramento, Marysville, San Jose, Stockton, and Petaluma, these schools could serve only a fraction of the Black youth. Furthermore, the colored schools did not meet the Black communities' requirement that their children enjoy equal access to publicly supported education. In 1872, Mrs. Harriet A. Ward, on behalf of her daughter Mary Frances who was denied admission by Principal Noah Flood of the Broadway School in San Francisco, initiated California's first school segregation court case. Eighteen months later, the State Supreme Court established the principle of "separate but equal" in California school law, in the *Ward v. Flood* case.

Even after the school segregation legislation was repealed, vestiges of discriminatory practices against Black students had to be removed through judicial intervention. Visalia, a district in Tulare County that resisted educating its Black youth until 1873, did not desegregate until 1890, and then only under a court order. Edmund Wysinger, a Black resident of Visalia, filed a writ of mandate on behalf of his minor son, Arthur, on October 2, 1888, challenging a public institution's authority to deny a group its constitutional right because of race, color, or national origin. On March 1, 1890, the California Supreme Court, in *Wysinger v. Crookshank* [9] reversed a lower court decision and ordered 12-year-old Arthur Wysinger admitted to Visalia's regular school system.

School segregation emerged again in the twentieth century. The pattern, however, differed from that of the previous century. By 1910, schools staffed with White personnel were the general practice. Black teachers were barred as public school teachers, just as they were from most other non-menial occupations. School districts excluded trained Black professionals until the 1950s by requiring teachers to have at least one year's experience in California under a regular appointment, an eligibility criterion that could not be met in a closed system.

Ironically, El Centro's Elementary District, among the state's most rigidly segregated systems, inadvertently made it possible in 1913 for a few teachers to circumvent the barriers to professional opportunity. El Centro followed the Southern segregation model, in which the staff and students were a racially homogeneous group. Consequently, only Black teachers could be assigned to teach Black students, and the assignments were regular teaching appointments. Given the obvious benefits of regular teaching appointments, the city's elementary and high school districts attracted the state's most talented teachers. Despite the inadequacies of facilities at the two Black schools, their curriculum and instructional staff were superior. [10]

Teachers who held regular appointments in El Centro achieved at least the formal requirements for employment in other districts in the state that had predominantly Black schools.

Holmes Avenue in Los Angeles was the first school in that city where Black teachers who had the requisite teaching experience could secure an appointment. Erected in 1910 adjacent to the Furlong Tract, a Black settlement established on a subdivided tract, it was the first school in Los Angeles

specifically built for a Black neighborhood. For many years, the staff at Holmes Avenue was totally White. When the district finally did hire Black staff members, most had received their training in El Centro.



Allensworth women, Tulare County [circa 1920]

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History



A History of Black Americans in California: INDUSTRY

The California Legislature not only disenfranchised its Black citizens, but also enacted a fugitive slave law that jeopardized the status of free persons of color. Evidence derived from various court cases, manumission records, pioneers' personal documents, and legislative proceedings show that conditions of servitude existed for many Black Californians between 1848 and 1863. The conditions prevailed despite a constitutional provision which stipulated that "neither slavery or involuntary servitude, unless for the punishment of a crime shall ever be tolerated in the State." Even though the constitution prohibited the peculiar institution, it should be noted that an 1852 law provided for seizure of any person alleged to be a fugitive brought to the state before its admission to the Union. [11] On proof to the satisfaction of a magistrate of the court, the accused could be removed from the state. Under no circumstances could testimony of the alleged fugitive be admitted as evidence.

Official records indicate that this law was used to veil the intent of persons unlawfully holding others in involuntary servitude. The experience of Bidley Mason and Stephen Spencer Hill are two cases in point.

Despite their political disenfranchisement, Black people contributed to the development of three California industries before World War II: mining, lumber, and agriculture. Black miners could be found throughout the mining frontier — in the Mother Lode Country and in Southern California's gold mines. Historic place names in the gold region such as Negro Bar, Negro Flat, and Nigger Ravine are reminders of Black miners' presence and the racist behavior their presence evoked. Pejorative epithets such as these, commonly used in gold region place names, portray the hostile environment within which Black miners worked to secure their claims, protect their liberty, and guard against bodily harm. Without the right to testify against Whites, these miners had only their genius, brawn, and comrades to protect them from White miners' encroachments.

Individual Blacks, free and slave, worked alongside Whites, while others worked in company with fellow Black miners. Kentucky Ridge Mine, near Bidney Springs in Nevada County, operated for two years (1851 and 1852) by a large number of slaves, has acquired virtual legendary status. A colony of Black men and women settled along Deer Creek in 1851 to work the Kentucky Ridge Mine. These Afro-Americans came to Nevada County from Georgia as the slaves of Colonel William F. English. English reportedly was a Georgia planter who sold his plantation in 1850, then journeyed to Philadelphia, where he purchased a ship to transport machinery and workers to California to establish a mining enterprise.

Organized mining companies formed by Afro-Americans operated some profitable mining claims. A Black concern owned Horncut Mine, a prosperous quartz claim in Brown's Valley, the town near Marysville in Yuba County that became prominent for its rich surface diggings and extensive quartz mines. Another Black mining concern, the Rare Ripe Gold and Silver Mining Company, also located in Brown's Valley was, according to an article in the *San Francisco Elevator*, 1868, a "first class" company (a noteworthy comment, since quartz mining required heavy machinery, and few men had the investment capital to properly outfit that kind of mining operation).

Outside Stockton, San Joaquin County, Mose Rodgers, in company with other Black men, owned several successful mining companies. Rodgers best-known mine, and one for which he was a stockholding superintendent, was the Washington Mine, established in 1869. In certain years, more than half a million dollars in gold was taken out of the Washington Mine. A mining tycoon and technical genius, Rodgers was constantly sought after for his knowledge of mining technology.

Gold was discovered in San Diego County in 1869 by a Black man, Frederick Coleman. Coleman made the discovery near Julian, in a creek that now bears his name. Thousands swarmed to the area as news of the discovery spread, radically changing the quiet settlement that had originally been established by Blacks and Indians. A town government was installed, and the place was renamed to commemorate the Julian brothers, Mike and Webb, former Confederate soldiers.

The ethnic character of the new town changed after the discovery of gold, but its Black population continued to increase. In fact, Julian continued to have the highest percentage of Black residents of any town in the county until 1900, and Black people continued to be represented in the commercial sector as the new town began to grow. Prominent among the entrepreneurs were Albert and Margaret Robinson, who operated a restaurant in the 1870s and later expanded it to include a hotel. The Robinson Hotel, operated under family management until 1921, is now the town's only hotel.

Black mill workers from the old South were a principal labor force in the wood products industry in at least three counties between 1920 and 1960. Experienced Black mill workers recruited directly from the South are known to have migrated to lumber towns in Plumas and Siskiyou counties in the 1920s, and in Placer County in the 1940s. Weed and Foresthill are two lumber towns that serve as examples of Afro-Americans' critical participation in the industry. McCloud and a number of other towns share a similar history. Further examination of this facet of the lumber industry could contribute a great deal toward an understanding of a significant pattern of labor history.

Black settlements were established in Quincy and Weed during the 1920s by Louisiana-based sawmill companies that purchased existing California mills and recruited experienced workers from communities adjacent to the parent company's home operation. Transportation costs were advanced, and housing was guaranteed for those willing to relocate.

In the 1920s, when Southern Black mill workers entered the California lumber industry's labor force, racial discrimination was flagrant throughout the

industry. The employment structure limited Black men to non-supervisory positions. Although they were indispensable to the mills' operation, their compensation and status were never commensurate to their work. Their responsibilities ranged from highly skilled operations to the most dangerous, and some mills were manned by virtually all Black crews that performed all but supervisory functions. It was not until quite recently that Black men have been elevated to the position of foreman.



Grace Apartments, Los Angeles County

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History



A History of Black Americans in California: FARMING

Americans who established farms in the San Joaquin and Imperial Valleys toward the end of the nineteenth and the beginning of the twentieth century recruited Southern Blacks, a plentiful source of cheap labor, to introduce their experimental crops. Consequently, Afro-Americans were among the earliest contract laborers recruited from outside the state to develop California agriculture.

Fresno County is one early example of the recruitment of Afro- American farm laborers. At the end of the nineteenth century, the agricultural industry in Fresno County began to shift from cultivation of cereals to deciduous fruits and grapes. This more labor-intensive production heightened the demand for field laborers. Formal labor recruitment was directed at Southern Black communities. Oral testimony taken from descendants of these pioneer toilers states that "a train load" of Black people from North Carolina reached Fresno County in 1888 under work contracts that obligated them for several years. Shortly thereafter, another immigrant group arrived by train from Canada. While the actual number of immigrants in these groups is not known, Fresno County's Black population did increase notably from 40 in 1880 to 485 by 1890, but did not increase substantially thereafter.

Until around 1905, the Imperial Valley was a vast, dreary desert region, part of the Colorado Desert. After 1905, growers began to transform it into an agricultural center with a great need for labor. Its name was changed to Imperial Valley, and a 70-mile canal was put through Mexican territory to water its fertile but arid terrain, making it attractive to settlers.

Cotton, experimentally introduced in Imperial County in about 1913, was a labor-intensive crop that required a large labor force. Growers recruited agricultural workers directly from the South and Mexico to work the fields. By the middle of the second decade, Black people had begun to relocate to the Imperial Valley. Many settled in El Centro where a number of notable Black institutions developed. On arrival in El Centro, Black people met racism not unlike that which characterized the communities from which they had emigrated. Their organized resistance to the Jim Crow system probably contributed to the group becoming less desirable as field workers than Mexican nationals.

Although Black people were among the first contract farm laborers, they never became a major work group in the agricultural industry. Direct Southern recruitment, obviously inimical to Southern planters' interests, encountered local resistance, especially after thousands of workers walked off the

plantations during the 1870s to homestead land in the Kansas Territory. [13] Furthermore, growers soon found that persons recruited during the 1880s and 1890s would not accept the status of field laborers when other occupational opportunities existed.

The nineteenth-century growers' recruitment efforts, aided by the African Episcopal Zion Church, attracted educated and skilled laborers from Southern cities. African Methodist Zion ministers began the colonization program in the 1880s to expand African Methodist Zionism in California. Hundreds of emigrants assembled in North Carolina cities for transportation to California. However, many emigrants considered contract labor to be a means to relocate and become established, and sought to become entrepreneurs, skilled workers, and yeoman farmers when their contracts terminated.

California growers, who had long resisted the Afro-Americans' efforts to achieve a competitive edge, found Black workers unsuitable, and turned their attention to a foreign labor source. Other non-White foreign workers could be recruited in a less competitive labor market, and growers resolved to use them.

Land-based economic development in agricultural settlements was promoted at various times after the turn of the century in Yolo, San Bernardino, Tulare, and Fresno counties. The Yolo County settlement in 1900 was perhaps the first group attempt to build an agricultural base on homesteaded land. Settlement by Blacks could not have occurred earlier, since California's homestead laws had previously required a homesteader to be a White citizen.

In California, like other regions, Black homesteaders had to settle for the least desirable land. The land Black families successfully homesteaded overlooking the town of Guinda in Yolo County had earlier been given over to bandits. High above the valley, at a considerable distance from the county seat and transportation points, the area was remote and relatively inaccessible.

For years, maps showed the settlement as Nigger Hill, the pejorative place name used by locals. The nomenclature reflected local racial conditions. Despite social and environmental adversities, Black ranchers moved in from Northern California and the Bay Area, and raised cattle and experimented with orchards and other agricultural products. On what was once the main road leading to the summit stands a sandstone boulder, "Owl Rock," on which residents over the years have etched their names. Owl Rock represents the last physical evidence of the early settlement.

At least two different efforts at colonization occurred in San Bernardino County between 1900 and 1910. The Forum, a Los Angeles civic club organized in 1903, solicited families to homestead government land in the Sidewinder Valley, desert land near Victorville. The first homesteader took up 640 acres at a site where ground water could be easily lifted, but water, although critical to subsequent development, was never available in ample supply. Little is known about the actual number of families who relocated to Sidewinder Valley during the Forum's promotional effort. However, in a newspaper account in 1914, the Forum reported that more than 20,000 acres had been homesteaded by Blacks. Lucerne, an adjacent town situated in the arid Sidewinder Valley, has been singled out by pioneers in Sidewinder Valley as an originally Black settlement.

Another highly publicized colonization effort in San Bernardino County occurred in 1904. [14] The African Society, a group based in the town of San Bernardino and capitalized at \$10,000, according to the *San Francisco Chronicle*, had been created to colonize the Southern California area.

The Tulare County agricultural settlement was the town of Allensworth. Established in 1908 by a group of promoters, Allensworth was more than an agricultural settlement. It was designed to be a self-governed Black town. The promoters attracted more than 200 settlers to the town in the first few years. For nearly a decade, Allensworth's pioneers struggled to create a viable town in the arid San Joaquin Valley. Artesian water, initially abundant, soon stopped flowing at the volume required to meet domestic and agricultural demand. Although various plans were implemented to acquire adequate water, this town, like other agricultural settlements, became another dream deferred.



Second Baptist Church, San Joaquin County

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History



A History of Black Americans in California: BUSINESS

Black people engaged in the full range of contemporary businesses for at least three decades after statehood. Interest in business pursuits attracted many early Black immigrants to settle in towns where they could provide goods and services for the swarms of people who came during the Gold Rush years. San Francisco, in the nineteenth century, was the city where most Black business activities were centered.

Black entrepreneurs, like their contemporaries, entered businesses they believed the White majority would patronize. As long as the population was growing, and need for goods and services exceeded supply, Black entrepreneurs could enter most business areas with relatively little difficulty. Toward the close of the century, however, Black entrepreneurs found their business pursuits restricted to a narrow range of services as Whites, emigrating from mining districts and other jurisdictions and seeking a competitive edge, began a campaign to intensify the prevailing racial prejudice. Before long, the few areas where a Black entrepreneur could reasonably expect sufficient White patronage to develop a prosperous concern were limited to service-related enterprises such as tonsorial, boot black, livery, restaurant/ catering, and drayage businesses.

Institutionalized racism began to emerge in the latter decade of the nineteenth century, and by 1920, even displaced Black barbers from the prosperous luxury shops operated for White businessmen in choice downtown locations. For more than 50 years prior to that, Black men enjoyed a near monopoly on this trade.

Residences owned by these nineteenth-century settlers stood on lots along city blocks in the downtown districts where they worked. Frequently, though, they clustered three or four families in a city block, often in certain wards or districts. This scattered residential pattern began to change as institutional racism began to encroach further upon California Black life.

Restrictive city ordinances, real estate covenants, and other racially discriminatory measures that came into practice at the turn of the century and continued in effect for more than six decades, dramatically limited access by Black people to local resources such as housing, employment, education, and public accommodations. Housing restrictions gradually limited the size of Black residential areas and thereby created overcrowded neighborhoods and depressed economic growth. Real estate interests refused to make mortgage money available for property in certain "red-lined" areas and thus turned many Black neighborhoods, especially those with older housing, into slums. Urban

renewal programs during the 1960s targeted ethnic neighborhoods in downtown districts, wiping out most nineteenth-century neighborhoods in or near downtown business districts. Around the periphery of various cities' business districts, an occasional structure representing these early neighborhoods survives.

Nineteenth-century commercial structures were more likely to survive the 1960s urban renewal blitz than were residential properties.

This was particularly true in the Gold Rush districts where Black settlement antedated the period of racially restrictive land use patterns. As a rule, nineteenth-century Black-owned businesses were scattered through out downtown business districts. One Northern California town where several nineteenth- and early twentieth-century commercial properties have been identified in the original business district is Red Bluff in Tehama County. San Diego, in the southern region, also has nineteenth-century business properties in the original downtown business district, known historically as the Horton Addition.

Black business districts were developed after the turn of the century to provide services for Black communities in cities like Oakland and Los Angeles where populations were substantial and growing. These businesses soon found their economic opportunities constricted by the same city ordinances and covenants that precipitated residential neighborhood deterioration. Business development trends in Los Angeles during the first decades of the twentieth century were not only a microcosm of the racial discrimination practices that emerged in California after the turn of the century, but also reflected the evolution of Black businesses created to serve neighborhood clientele.

Black businesses established after the turn of the century were initially located in downtown Los Angeles near the original Black settlement. As industry began to encroach on the old settlement, businesses and residents were forced to move further south. Central Avenue then became the major Black business section. In 1929, when Dr. J. A. Summerville built the town's first major Black hotel, Hotel Summerville (now known as the Dunbar), the central business district coalesced around the hotel. The A. J. Roberts Funeral Home was among the first businesses established during this era. Andrew J. Roberts, who for years had operated a successful drayage concern, Los Angeles Van, Truck and Storage Company, sold the business sometime after 1905 to establish a mortuary. When the establishment opened, it was the town's first Black mortuary. The Roberts Funeral Home conducted an apprenticeship program to train persons for the profession, and also provided technical services to other mortuaries. At one period, the staff performed most embalming services for Los Angeles's Japanese morticians.

Insurance companies, with few exceptions, denied Black people insurance coverage. Those companies that did write policies for Blacks did so at discriminatory premium rates. Golden State Guarantee Fund Insurance Company of Los Angeles, a company expressly created to provide life insurance coverage for Black people, received its charter July 23, 1925. Entering a non-competitive market, the company soon established branch offices in various California cities and even in other states.

Responding to the Black community's need for quality medical care, three

Black doctors established the Dunbar Hospital in 1923. Shortly thereafter, two other medical facilities were opened. Two pharmacists affiliated with the Dunbar Hospital opened the first pharmacy in the state owned and operated by Black women. White institutions at that time denied Black patients full medical service and equal accommodations, and barred Black doctors from affiliation.

Private medical offices began to appear in the 1920s. The earliest was opened jointly by a medical doctor and a dentist in the Hudson-Ledell Building, designed by Paul Williams. The use pattern of this building reflects the economic changes that occurred over a 40-year period in the Central Avenue business district. Professional offices were located in the building until World War II. During World War II, Central Avenue became a major entertainment hub, and a nightclub known as the Club Memo occupied the building. When the Club Memo closed, the Hudson-Ledell Building was again converted to professional offices. Since 1963, the building has been the field office for Los Angeles City Councilman Gilbert Lindsay. The area is now undergoing revitalization.

A major break in the pervasive occupational racism that restricted workers, both educated and uneducated, to low-paying menial jobs came through the Brotherhood of Sleeping Car Porters. The brotherhood was created August 25, 1925, as a union for Pullman porters and maids. It was the first Afro-American labor organization to receive a charter in the American Federation of Labor. The union was an advocate for Black men and women employed by the Pullman Company.



Frazier/Toombs House, San Francisco County

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A History of Black Americans in California: ASSOCIATIONS

Voluntary associations have traditionally welcomed and provided assistance to individuals and groups newly arrived in a strange city. However, Black migrants coming to California's cities after 1920 found conventional social service organizations like the Red Cross, Salvation Army, YMCA, and YWCA closed to them. Housing and employment assistance, as well as care for the orphaned and infirm, which these facilities provided (usually at no cost), had to be financed directly by the Black community. Black club women were prime movers in filling the void.

The California Association of Colored Women's Clubs was formed in 1905 as an affiliate of the National Association of Colored Women's Clubs. At its inception, the association recognized the need for social services and encouraged local efforts to meet that need. Homes for Black working girls and women was one program that received statewide support. Clubs throughout California purchased residential structures and established homes with wholesome surroundings for women and girls who worked in cities where there were no suitable public accommodations. Houses to serve this purpose still exist in Sacramento, San Francisco, and Los Angeles.

Homes for orphaned children and child care services for working mothers were other social services provided in the community. A number of facilities offering these services were created by various providers. The East Bay club women became affiliated with the Northern Section of California Association of Colored Women's Clubs through a consolidated effort on April 30, 1918, and established the Fannie Wall Children's Home and Day Nursery. At the Oakland home, a staff of professional women administered resident care for orphans and day care for children of working mothers. Care for adolescent orphans was provided through private training schools where orphans could earn their fees through regular on-the-job training. The Duval School, organized in Beulah Heights (Oakland) in 1914, is but one private institution that accepted adolescent orphan girls and trained them for domestic work.

Aged Black people were also provided responsible care in a congenial environment. The Home for the Aged and Infirm Colored People, built in 1897 in Oakland, was the first such institution in the state. Black club women originated the idea and formed the Old Peoples Home Association in 1892 to develop a facility. Within five years, the association had approximately 100 members and a three-story home, which in 1897 cost \$4,000. Several founders served on the Board of Directors until the home was closed in 1938. The Black Southern California Baptist Church opened a similar facility in Los Angeles in 1919. The Southern California homes were the Abilia Home for the Aged and

the Linden Home for the Aged. Another facility for aged Black people, the Dunigan, was a private rest home founded in Ontario in San Bernardino County. A number of additional private rest homes were created as the need arose.

Black men and women in the military during the First World War could not get assistance in finding housing, employment, or other needed services from general social service agencies like the Red Cross, YMCA, and YWCA. Even the military, then a segregated service, offered little assistance to its Black members and their families. The Booker T. Washington Community Services Center, Inc. was established in 1919 by Black club women in San Francisco who were concerned about the lack of social services made available to Black military personnel and their families. These women raised funds to establish and operate the Booker T. Washington Center. After World War I, when the need that created the center had passed, its board of directors changed the function. Since then, it has offered a broad range of services for both youth and adults in the Western Addition area of San Francisco.



Negro Womens' Civic Improvement Club, Sacramento County

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A History of Black Americans in California: NOTED INDIVIDUALS

These social processes produced individuals whose attainments would have made them national figures except for their color. Foremost among this group was James P. Beckwourth, a shrewd and enterprising explorer, fur trader, and speculator. Beckwourth contributed much that has not been appropriately recognized to the history of the West. Yet this Black man's White contemporaries, like Kit Carson and Jim Bridger, have been so widely acclaimed that they are now legendary figures.

Other notable individuals include Edward P. Duplex, who was elected mayor of Wheatland in Yuba County in 1888; John Scott, a member of John Fremont's second western expedition; J. Goodman Bray, manager of tourmaline mines in Mesa Grande and founder of the tourmaline mining industry of San Diego County; Biddy Mason, a slave emancipated in Los Angeles by a United States District Court of Appeals judge, who became a wealthy philanthropist; and Mary Ellen (Mammy) Pleasant, perhaps now the most widely recognized among the early notables.

A prosperous and influential San Francisco businesswoman, Pleasant supported, and at times helped finance, the fight to end slavery and to gain citizenship in the free states. This struggle, in its various phases, engaged Black Americans throughout the nineteenth century. Pleasant was associated with both the citizenship movement in California and abolition activities in the eastern United States.

Structures designed by architects and builders also express the Afro-American presence in California. During the nineteenth century, it was commonplace for a master carpenter or brickmason to both design and construct buildings, a practice which continued into the twentieth century. These early builder-architects created much of the environment that now represents the state's architectural history. Included in this group were Black men. However, Black builder-architects, like their White contemporaries, have remained virtually anonymous, save for recollections and eyewitness accounts recorded in people's memories.

Amos Brown (1900-1965) and Paul R. Williams (1897-1980) were important professional Black architects. Brown, of the San Francisco Bay Area, designed residential structures, while Williams, a prominent Los Angeles architect, received considerable acclaim for both commercial and residential structures. In the 1920s, as a young architect, Williams received a number of commissions from the Black business community to build commercial structures. Several of these buildings have been listed as historic resources, albeit for their historical

rather than their architectural merit. Architecturally distinctive designs created by this architect have been recognized through peer review. The Music Corporation of America building in Beverly Hills won the American Institute of Architects Gold Medal Award in 1960 for the most outstanding building in Southern California.

Numerous professional builders, both master carpenters and brick-masons, gained reputations constructing residential properties. John Barber, John Coleman, Lemuel Grant, and Robert Booker were known to have constructed commercial buildings as well.

Only two of the commercial buildings associated with these men are extant. One is Redding's Lorenz Hotel (1904), and the other is the old administration building at Fresno City College (1915). Booker's Black contemporaries credit him with the Lorenz building's construction, although no documents have been found to corroborate this testimony. Black people, witnesses to construction of the old administration building, say that the Grant brothers (Los Angeles-based Black brickmasons) were retained to complete the detailed masonry around the building's windows and archways. Their White contemporaries, however, dispute the validity of this claim. For neither building have any documents been located to verify the builder's name.



Boyers House, Santa Clara County

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2. **African Methodist Episcopal Church Site (Grass Valley)**, Nevada County
3. **African Methodist Episcopal Church Site (Nevada City)**, Nevada County
4. **African Methodist Episcopal Zion Church**, Shasta County
5. **Alexander Street**, Nevada County
6. **Allen Chapel A.M.E. Church**, Riverside County
7. **Allensworth**, Tulare County
8. **"Athletics"**, San Francisco
9. **Bass House**, Riverside County
10. **Beckwourth Cabin/Trading Post**, Plumas County
11. **Bell Mountain Community/Sidewinder Well Site**, San Bernardino County
12. **Bethel African Methodist Episcopal Church**, Yuba County
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14. **Biddy Mason Home Site**, Los Angeles County
15. **Bishop House**, Stanislaus County
16. **Bon Ton Restaurant**, San Diego County
17. **Booker T. Washington Community Service Center**, San Francisco
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 56. **Hoover House**, Alameda County
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71. **Mercantile Block/Stoke-Wiley Store**, Riverside County
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 73. **Mitchell House**, Tehama County
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 76. **Murray's Dude Ranch**, San Bernardino County
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 78. **Negro Women's Civic Improvement Club**, Sacramento County
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81. **Phoenixonian Institute Site**, Santa Clara County

82. **Pogue/Gibbons House**, Yuba County
 83. **Quarters (Lincoln Heights)**, Siskiyou County
 84. **Red Bluff African Methodist Episcopal Church**, Tehama County
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 86. **Richmond Logan Ranch**, Shasta County
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 90. **Second Avenue Baptist Church**, Los Angeles County
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91. **Second Baptist Church**, San Joaquin County
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A History of Chinese Americans in California: INTRODUCTION

This report concentrates on the early decades of Chinese American history, 1850 to 1900. Limiting our scope in time has made it possible to search for endangered resources in all 58 counties of the state, instead of restricting our activity to the leading 10 or 12 counties. In consultation with members of the Chinese American community, the survey research team set this priority because of the importance of ascertaining true settlement patterns, occupations, lifestyles, responses to discrimination, and survival of early Chinese immigrants.

Information on these subjects in nineteenth-century newspapers and other written records is filled with caricatures and derogatory epithets. Yet these sources are often quoted even today because of the scarcity of written documentation on certain aspects of Chinese American history. Because of this, the value of the survey of Chinese American historic sites goes beyond simple recognition of certain historic buildings and places. The location, type, and historic significance of those buildings and places provide valuable information about patterns of early Chinese American life.

The term "Chinese American" is used here in its broadest sense, to include both citizens and non-citizens. The reason is that until 1943, Chinese immigrants (with few exceptions) were prevented by law from becoming naturalized citizens of this country. Because such legislation was discriminatory, it seems only fair to include as Chinese Americans permanent residents who spent most of their lives in the United States, and whose major achievements or contributions were in the United States. Even many of those who in their final years returned to China to die left their children and grandchildren in this country.

Chinese American history is a living, continuous history, as shown by the numbers of fourth-, fifth-, and sixth-generation Chinese Americans in California and elsewhere in the United States. To make this clear in the survey, some historic sites from the early twentieth century were included. The early Chinese immigrant population did not die out but survived despite racial violence, discriminatory legislation, restrictive covenants, and limited opportunity. Amid the increased numbers of Chinese immigrants in recent years, it should be remembered that not all Chinese Americans are recent arrivals.



Fresno Chinese American Community, Fresno County

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A History of Chinese Americans in California: EARLY CONTACTS

Considerable evidence exists to substantiate the early exploration of the west coast of North America by Chinese adventurers, priests, and merchants. [1] In fact, there were early Chinese immigrants to Mexico before those in California, [2] and a number of Chinese in California during Spanish rule. One of those was Ah Nam, the cook who worked for Governor Pablo Vicente de Sola in Monterey in 1815. [3]

The west coast of North America in the nineteenth century was known to Chinese sailors who were employed on American ships, or who fished off the coast of California in Chinese junks. As early as 1848, it was advocated in the United States that Chinese workers be encouraged to come to this country to provide inexpensive farm labor. [4]

Trade Relations with China

Since pre-revolutionary days, trade has been carried on between this country and China. The tea dumped into Boston Harbor at the outset of the American Revolution was from China, and many colonial homes displayed ceramic wares and other objects from China. Even before colonial times, the desire to find a new sea route to China led to the coming of some Europeans to this continent. Under these circumstances, it was natural that California should develop trade relations with China.

Building materials were in great demand in early California because of the sudden increase in population brought about by the Gold Rush. Pre-fabricated buildings and materials were shipped from the East Coast by way of Cape Horn, or were imported from other countries overseas.

One of the best-known examples of prefabricated buildings imported from China was Parrott's Granite Block building in San Francisco for which pre-cut granite blocks were shipped to the United States. [5] Chinese stonemasons came also, and on June 8, 1852, they went on strike for higher wages. [6] This earliest recorded strike by early Chinese immigrants is of considerable significance since it shows their concern for equal pay for equal work.

Of all buildings prefabricated in China and exported to the United States, the earliest one still standing is the Double Springs Courthouse in Calaveras County. It was constructed in 1850 from pre-cut camphor wood. [7]

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A History of Chinese Americans in California: THE 1850s

Lifestyles Of Early Immigrants

Most Chinese immigrants entered California through the port of San Francisco. They developed a Chinese American community there, and made an effort to participate in the political and cultural life of the city. In 1850, they attended a religious meeting and received copies of Christian religious writings, marched in a funeral procession for President Zachary Taylor, and participated in festivities celebrating California's admission into the Union. In 1852, several prominent Chinese Americans took part in the Fourth of July Parade in San Francisco. [8]

Chinese Americans in San Francisco also sought to preserve some of their own cultural traditions. In 1851, they celebrated the lunar new year in the traditional way. [9] In 1852, the first performance of Cantonese opera was held in the American Theatre on Sansome Street, and several months later, the first Chinese theatre building was completed. [10] Two Chinese-language newspapers began publishing in 1854 and 1855. [11]

The Kong Chow Association is generally believed to have been the first organization established among Chinese in the United States. Early Cantonese who arrived in San Francisco in 1849 were apparently from the Sun Wui and Hawk Shan districts (which make up the Kong Chow Association). [12] The exact date when the Kong Chow Temple was first built is unknown, but documentary evidence suggests that it was in existence as early as 1853. [13]

Rivaling the Kong Chow Association as the first organization established among Chinese in the United States was the Chew Yick Association. On December 10, 1849, 300 members of the latter organization elected Norman As-sing, a prominent San Francisco merchant, as their leader. As-sing claimed to be an American citizen, naturalized in Charleston, South Carolina and converted to Christianity. He had a greater knowledge of American customs and language than most other early Chinese Americans. At his Macao and Woosung Restaurant on the corner of Kearny and Commercial streets, about a block from Portsmouth Plaza, he gave banquets at which he entertained local politicians and policemen. He often represented the Chinese American community on formal occasions, and served as an interpreter. [14]

Tong K. Achick was among a group of Chinese immigrants arriving in San Francisco in 1851 who had learned English and some American customs at mission schools in China. He was instrumental in founding the Yeong Wo Association for immigrants from his native district of Heung Shan. Later, he

and Norman As-sing became rivals for leadership of the Chinese American community in San Francisco. [15]

Not all of the early Chinese pioneers landed in San Francisco. One location along the coast of California where early Chinese landed and where their descendants have remained is the city of Mendocino, which was a port for the California lumber industry. The only historic building remaining from this early Chinese American community is the Mo Dai Miu, or Temple of Kuan Kung. [16]

Religion

Taoism was the religion of most of the early Chinese immigrants, and Kuan Kung was the most popular deity. Kuan Yu (later called Kuan Kung) was an actual person who had lived in China during the Three Kingdoms Period (third century, A.D.). He has sometimes been referred to as the god of war, but this designation is misleading. He was a military leader renowned for his courage, loyalty, and adherence to lofty ideals. He was even known to have sacrificed his personal success when it would have required him to compromise his principles. These qualities are the reasons he was venerated after his death, and became so popular among the early Cantonese who came to this country. [17]

The Taoist temple was a source of strength for early Chinese American pioneers. Worship was usually done individually, rather than in congregations. Respect for deities and departed relatives was shown by offerings of incense, accompanied by food and drink on special occasions. Paper offerings (in the form of money, clothing, etc.) were burned, since burning was viewed as a means of transmitting objects from the visible to the invisible world.

Prayers were offered silently in the heart before the altar. Questions were asked of various deities, usually by writing the question on a piece of paper and then burning it on the altar. An answer was obtained by consulting the prayer sticks (sometimes called fortune sticks), which had to be interpreted by the priest or deacon of the temple. Evidence suggests that most frontier Taoist temples were supervised by deacons rather than ordained priests. [18]

The Taoist temple was also a social center and a focal point for early Chinese American communities. The first and fifteenth days of the lunar month were days of worship, when people often met at the temple. Each spring, a "bomb day" festival was held in most temples. [19] The highlight of the festival was the shooting off of a rocket (or "bomb") containing lucky rings. The temple also provided some social services, such as lodging for travelers.

Legal Status Of Early Immigrants

The United States Constitution in the 1850s reserved the right of naturalization for White immigrants to this country. [20] It recognized only two skin colors, White and Black. Since early Chinese immigrants were neither Black nor White, some were allowed to become naturalized citizens, but most were not. Without citizenship, they could not vote or hold government office, and had no voice in determining their future in this country. They were designated as "aliens ineligible for citizenship," and as such were unable to own land or file mining claims. [21]

Chinese American miners reworked old claims at times and in places where they were prevented by law or racial violence from filing their own claims. Especially after it was ruled that Chinese could not testify in court against Whites, [22] the only reasonable course of action was to try to avoid open confrontation. or direct competition with Whites.

In later years public-spirited Chinese Americans who accumulated money in excess of their needs often sent money back to China to build schools and hospitals. [23] They retained their Chinese citizenship, since they were not allowed to become citizens of the United States. They could not vote, hold public office, or be employed by the State. Their future here was uncertain, even though they paid taxes and contributed to the economy of the country.

Fishing

Exactly when the Chinese began to fish off the coast of California is unknown, but oral tradition states that fishing began before gold was discovered. There were early communities in Monterey, San Diego, and San Luis Obispo counties, whose inhabitants fished for squid, abalone, and various kinds of fish. As early as 1854, there was a fishing village on Rincon Point in San Francisco. [24]

Chinese began fishing for shrimp in California probably around the mid-1860s. Numerous villages or "shrimp camps" were established on the shores of both San Francisco and San Pablo bays. China Camp in Marin County was one of the largest and longest-lived of these camps. Shrimp fishing was a long-established industry in China. Many immigrant Chinese arrived with knowledge of fishing and preservation techniques necessary to develop a shrimping enterprise in California. [25]

In the early days, when there was little demand for fresh shrimp in the United States, most of the shrimp catch was dried and sent back to China. Later, as the demand for fresh shrimp grew in California, Chinese American shrimp fishermen came under increasing pressure from other fishing groups. Discriminatory legislation was passed that required the purchase of special licenses, forbade traditional Chinese fishing techniques, limited the fishing season, prohibited export of dried shrimp, and restricted the size of the catch. [26] As the population of China Camp dwindled, only the Quan family persisted and adapted to new regulations and changing technology. Today, Frank Quan is the last Chinese American shrimp fisherman there.

Chinese Americans also worked in fish canneries which processed the fish that other fishermen caught. For example, most of the employees at the salmon cannery in Del Norte County, established by the Occident and Orient Commercial Company in 1857, were Chinese immigrants. [27]

Immigration

As soon as news of the discovery of gold in California reached China, there was a dramatic increase in the numbers of Chinese immigrants to the west coast of the United States. Most of the immigrants came from Kuangtung Province in Southern China. That section of China had previously had contact with the West through the port of Canton. The reasons many Chinese emigrated were the series of wars, rebellions, civil disorders, floods, famines, and

droughts that wracked China, and made earning a livelihood difficult in their native land. [28] A particular humiliation was the defeat of China by the British in the Opium War of 1840, after the Chinese sought to cut off the British importation of opium into China. [29]

To be better prepared for whatever difficulties might lie ahead, the Chinese often emigrated in self-help groups from the same village, often with the same surname. Because few of them knew the language and customs of California, they formed larger self-help groups consisting of people with the same surname or from the same region. Most had to borrow money for their passage to California, and were required to repay this debt from their earnings here. Those who could not borrow from their families borrowed from agencies under the credit-ticket system. [30] Attempts to bring Chinese workers to the United States as contract laborers were stymied by the absence of any means to enforce the contracts. [31]

The term "coolie" refers to contract laborers whose contract specified conditions approximating servitude, slavery, or peonage. Use of this term with regard to early Chinese immigrants to this country is incorrect. Widespread use of the term "coolie" to persuade American voters that all Chinese immigrants were slaves, and that their immigration to the United States ought to be prohibited, has given the term racist connotations.

Technology Brought From China

The presence of the ailanthus tree (the so-called "Tree of Heaven") throughout California has long been a puzzle. The tree is native to China, but not to the United States; yet it grows profusely in those regions where early Chinese immigrants lived. All sorts of fanciful explanations are given — that the Chinese accidentally brought the seeds to this country in the cuffs of their trousers (their trousers did not have cuffs), or that the Chinese brought the seeds to this country because they were homesick. The real reason Chinese immigrants brought ailanthus seeds to this country is that the trees are thought to contain an herbal remedy beneficial for arthritis. [32] The Chinese "wedding plant" was also brought to this country as an herbal remedy, but is less easily recognized.

Herbal medicine fulfilled an important health need in the nineteenth century for both Chinese and non-Chinese alike. Western medicine had not yet developed wonder drugs, anaesthetics, vaccinations, or sophisticated surgical techniques. Patent medicines were widely used, and their contents were not regulated by any agency of the government. Drastic measures, such as bleeding, were sometimes resorted to. On the other hand, Chinese herbal remedies had one to two thousand years of use behind them. In fact, some so-called "wonder drugs" are actually synthesized forms of various herbs. Even today, some medically trained Chinese Americans prefer some herbs to their synthesized forms because the natural herbs have no side effects. [33]

One of the ancient building techniques brought from China was construction using rammed earth. While adobe and rammed earth are often associated with Spanish and Mexican cultures, rammed earth was a construction technique in use in China as early as 1500 B.C. This technique involves packing mud between wooden forms and hammering it until it becomes as hard as stone. It is an inexpensive building technique, but it is vulnerable to rains and dampness.

When it is used in South China, where the weather is often damp, buildings are faced with stone for added protection. [34]

Mining

After gold was discovered in California, Chinese immigrants joined the ranks of gold seekers from all over the world. But when they arrived in the gold fields, they were greeted by racial discrimination.

In 1850, the California Legislature passed a law taxing all foreign miners 20 dollars a month. Although stated in general terms, it was enforced chiefly against Mexicans and Chinese. [35]

In May 1852, at Foster and Atchinson's Bar in Yuba County, a meeting was held and a resolution was passed denying Chinese the right to hold claims and requiring all Chinese to leave. [36] This was followed by a mass meeting in the Columbia Mining District in the southern mines, where a resolution was passed to exclude "Asiatics and South Sea Islanders" from mining activities. [37] In 1855, an anti-Chinese convention was held in Shasta County to expel the Chinese from mining claims. [38] Shortly afterward, the California Legislature passed an act to discourage immigration to the state by persons who could not become citizens and who were, for the most part, Chinese. [39]

One of the earliest acts of racial violence against Chinese immigrants took place in 1856, when white miners from outlying camps marched down to Yreka's Chinese American community, destroyed property, and beat up Chinese Americans. [40]

Despite hostility and discrimination, Chinese continued to immigrate to California to avail themselves of whatever opportunities awaited them here. When they were prevented from mining gold in the mining districts, they became merchants, laborers, or laundrymen, or sought employment elsewhere.

Construction

Chinese immigrants built many of the flumes and roads in the mining districts. In Mariposa County in the 1850s, the Big Gap Flume was constructed by Chinese workers of the Golden Rock Water Company to cross Conrad Gulch and carry water in a gravity flow system to gold mining areas. This wooden flume, suspended by trestle works, was part of a 36-mile ditch supplying water for miners in Garrotte, Big Oak Flat, Moccasin Creek, and other nearby areas. [41]

Throughout California, there are stone walls that are said to have been built by Chinese American workers in the nineteenth century. They are usually made from uncut field stones, without the use of mortar. The stones were obtained by clearing the surrounding land for pasture or farming. The best-documented stone walls built by Chinese American workers are on the Quick Ranch in Mariposa County. They are built over rolling hills, rather than on level land. The fact that they are still standing today is evidence of the skill of the workers. [42]

In 1852, at the same time anti-Chinese meetings were being held in the gold mining districts, Governor John McDougal, in his annual message to the

California Legislature, gave the first official endorsement to employment of Chinese immigrants in projects to reclaim swamps and flooded lands. [43] Only a few Chinese immigrants worked on reclamation projects in the 1850s, but most of the workers who drained swamps and built levees in the 1860s and 1870s were Chinese Americans.

Many early roads in California were built by Chinese immigrants. Del Norte County, Chinese Americans built trails and roads eastward through dense forests and rugged mountains to the communities of Low Divide, Altaville, and Gasquet, and to the state of Oregon. [44] In Lake County, Chinese Americans built the Bartlett Toll Road through the hills east of Clear Lake. [45]

Viticulture

Chinese immigrants also provided essential labor for development of the wine industry in California. They built and worked for small wineries like the John Swett Winery in Contra Costa County. [46] They were employed by Colonel Agostin Haraszthy in his Buena Vista Vineyards in Sonoma County, the first modern commercial vineyard in California, and later worked at the Beringer Brothers Winery in Napa County in 1876. [47] Chinese Americans also worked in vineyards in Southern California, and even constructed the buildings of the Brookside Winery in San Bernardino County from bricks they themselves made. [48]

Agriculture

Since most of the early Chinese immigrants were from farming areas in Kuangtung Province in China, it was natural for them to become involved in agriculture in this country. Few of them were able to become independent farmers because most were not citizens and were prevented from owning land by local laws and restrictive covenants. Many had truck gardens in which they raised vegetables and fruit they sold door to door. Others were sharecroppers or tenant farmers, who leased land and paid the landlord part of their crop. Most were migrant farm laborers.

Chinese American farm labor was essential to the development of various crops which required special skill and care. Early Chinese immigrants were the only ones who could grow celery, and were the main labor force for the Earl Fruit Company in Orange County. [49] Development of the citrus industry in Riverside County was dependent on Chinese American workers. [50] Chinese American farmers grew strawberries, peanuts, rice, and other fruits and vegetables. [51] Chinese American migrant farm workers harvested wheat, other grains, hops, apples, grapes, and pears and processed them for shipping.

One of the occupations in which Chinese Americans faced little competition was seaweed farming. This appears to involve the simple but laborious task of gathering edible seaweed from the rocks where it grows, drying it in the sun, and packing it for shipment. Actually, if more than one crop is desired, rocks must be prepared for the succeeding crop by burning off inedible seaweed. Otherwise, inedible seaweed will take over, and will prevent edible seaweed from growing back. Many of these seaweed farms were located along the coast of San Luis Obispo County. [52]

Vegetable gardens were often located on land no one else wanted. One Chinese

American farmer raised vegetables on an isolated island called Way-Aft-Whyle in Clear Lake, Lake County, in the 1880s. [53] All supplies had to be obtained from stores in a distant town, then transported by boat to the island. The vegetables raised had to be taken to shore, then carried all the way to town to be sold. Since the island is barely above water level, it could easily be inundated in storms.



Immigration Station at Angel Island, Marin County [circa 1910]

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A History of Chinese Americans in California: THE 1860s

Discriminatory Legislation

In 1860, two discriminatory laws were passed in California. One forbade Chinese American children to attend public schools. The other required a special license to be purchased by Chinese American fishermen. It was called a license instead of a tax because unequal taxation was forbidden by law (in other words, it was illegal to tax Chinese fishermen and not Italian or Portuguese fishermen). [54]

In 1862, the first nationwide discriminatory legislation singling out Chinese (or Mongolians, as they were often called) and not vaguely directed at "foreign miners" or "aliens ineligible for citizenship" was passed. The United States Congress passed a "Cooly Traffic Law" prohibiting transportation and importation of coolies from China, except when immigration was certified as voluntary by United States consular agents. [55] Shortly afterward, the California legislature passed an act to protect free White labor against competition from Chinese coolie labor, and to discourage immigration of Chinese into the state of California. [56]

A "police tax" law was passed, whereby all Mongolians 18 years or over, unless they had already paid a miner's tax or were engaged in production of sugar, rice, coffee, or tea, had to pay a monthly personal tax of \$2.50. This was ruled unconstitutional by the State Supreme Court in 1863. [57]

Manufacturing

Chinese immigrant labor was first employed on a large scale in the cigar industry in 1859. Soon, some Chinese Americans set up their own cigar factories. As early as 1866, half of the cigar factories were owned by Chinese Americans, and by 1870, more than 90 percent of the total labor force in the cigar industry was Chinese American. A vigorous anti-Chinese campaign in the early 1880s eliminated Chinese American labor in cigar-making factories.

The industry declined rapidly thereafter. [58]

The woolen mills in California were founded on Chinese labor. White workers, except for foremen, were rare in the early 1860s. [59] Employment of Chinese Americans in shoe manufacturing can be attributed, in part, to their availability and their manual skill. Chinese Americans were first employed in shoe manufacturing in 1869, but worked in slipper factories prior to that time. By 1870, Chinese Americans owned a number of shoe factories. [60] The entry of

Chinese American firms into clothing manufacturing dated from the late 1860s, and Chinese American firms and laborers soon dominated the ready-made clothing trade. [61] In addition, numerous Chinese Americans were employed in the manufacturing of soap, candles, watches, brushes, brooms, glues, bricks, powder, whips, and paper bags. [62]

Anti-Chinese elements in the labor union movement forced most Chinese Americans out of manufacturing. Union members charged that the less expensive labor of Chinese Americans was causing White unemployment and an economic depression. The real culprit was the transcontinental railroad, which brought unemployed European immigrants and cheap manufactured goods from the East Coast. Without reliable, efficient, less expensive Chinese labor, most of the factories went out of business because they could not compete with cheaper Eastern goods. Of the early manufacturers, only the garment industry has survived in California, and it continues to employ Chinese Americans and other minorities. [63]

The Lumber Industry

There were Chinese American lumberjacks in Del Norte, Humboldt, and Mendocino counties, but racial prejudice soon forced them out of that occupation. Some remained in the lumber camps as cooks and laborers. [64]

In Truckee in Nevada County, Chinese American men worked not only as lumberjacks, but also as mill hands, ice cutters, and teamsters. Most Chinese American women there were employed as railroad laborers. [65]

Railroad Construction

The most impressive construction feat of Chinese Americans was the work done on the western section of the transcontinental railroad. The groundbreaking ceremony for the Central Pacific Railroad took place in Sacramento in 1863, but Chinese American workers were not hired until 1865. From 1863 to 1865, less than 50 miles of running track had been laid, and this was over relatively level land. The construction superintendent, J. H. Strobridge, was slow to hire Chinese workers, even though they had been employed on the California Central Railroad and were praised for their work by the *Sacramento Union* in 1858. [66]

Chinese American workers built the section of the railroad through the foothills and over the high Sierra Nevada. They set explosive charges at precarious heights around Cape Horn in the Sierra. At Donner Summit, they worked and lived under the snow. They dug chimneys and air shafts, and lived by lantern light, tunneling their way from the camps to the portal of the tunnel to work long underground shifts. A labyrinth of passageways developed under the snow. The corridors were sometimes wide enough to allow two-horse sleds to move through freely, and were as much as 200 feet long. Through them, workmen traveled back and forth, digging, blasting, and removing the rubble. However, loss of life was heavy, for snow slides sometimes carried away whole camps. [67]

In 1867, 2,000 Chinese American workers went on strike, but were unsuccessful in obtaining the same higher wages and shorter hours as White men. [68] On completion of the railroad, their work was acknowledged by E.

B. Crocker in Sacramento, who said: "I wish to call to your minds that the early completion of this railroad we have built has been in large measure due to that poor, despised class of laborers called the Chinese, to the fidelity and industry they have shown." [69]

It was at Auburn that the Central Pacific Railroad first began hiring Chinese Americans for railroad construction. The Chinese American community in Auburn had been founded by gold miners, and increased in size with the influx of railroad workers. The community has survived, along with two pioneering families, the Kee family and the Yue family. Charlie Yue is said to have been the first licensed Chinese American gold assayer in California. [70]

Another town along the route of the railroad is Dutch Flat, where Theodore Judah and D. W. Strong made the original subscription to build the first transcontinental railroad. [71] Little is mentioned of Chinese American residents of the town, who numbered 2,000 in 1860. The transcontinental railroad is often credited to Judah's "vision" without acknowledging that visions do not become realities without hard work, and that the railroad could not have been built at that time without Chinese American workers. [72] One building remains of the Chinese American community in Dutch Flat, a vacant store constructed of rammed earth.

Mining for Borax and Other Minerals

Borax was first discovered in Borax Lake in Lake County in 1856, by Dr. John Veatch. Four years later, he found borax in Little Borax Lake, four miles to the west. The California Borax Company operated at the big lake between 1864 and 1868, extracting 590 tons of borax. The operations caused a terrible stench, endured willingly only by Chinese Americans, who had been driven out of the gold mining areas and could not find other employment because of racial discrimination.

In 1868, the company moved all of its operations to Little Borax Lake. This small lake supplied the entire borax needs of the country from 1868 to 1873, the last year of operation, producing 140 tons valued at \$89,600. The discovery of enormous beds of the mineral in the deserts of California and Nevada ended all production in Lake County. [73]

Chinese American workers were needed at Harmony Borax Works in Death Valley since they would work there year-around, even in the extreme heat of summer. In addition to gathering the dry borax, they also built roads across the desert and repaired them after storms. [74]

Quicksilver (mercury) mines also employed Chinese Americans. They are known to have worked at the New Almaden Mine in Santa Clara County, at the quicksilver mine in San Luis Obispo County, and at the Sulphur Banks Quicksilver Mine in Lake County. Mining quicksilver was hazardous because of the noxious fumes, which could cause death or disability. The Sulphur Banks Quicksilver Mine contained an additional hazard in the underground hot springs, which flowed around the quicksilver deposits and could scald miners to death. [75]

Economic Impacts

When the transcontinental railroad was completed in 1869, its backers expected it to bring prosperity to California. Instead, it brought an economic depression. The railroad flooded California's markets with cheap manufactured goods from the East Coast, and made many of California's fledgling manufacturing industries non-competitive. This situation was exacerbated when the railroad brought large numbers of unemployed European immigrants to California from the East Coast. [76]

A scapegoat was needed, so the economic depression was blamed on unemployed Chinese American railroad workers. Actually, they were eagerly sought for employment in other parts of the country. In January 1870, 250 Chinese were employed by General John C. Walker for construction of the Houston and Texas Railroad. [77] In February, the Colorado legislature passed a joint resolution welcoming Chinese immigrants "to hasten the development and early prosperity of the territory by supplying the demand for cheap labor." [78]

In June 1870, 75 Chinese Americans arrived in North Adams, Massachusetts to work in Calvin T. Simpson's shoe factory. In September, 68 Chinese Americans went to Belleville, New Jersey to work in the Passaic Steam Laundry. In 1872, 70 Chinese Americans arrived in Beaver Falls, Pennsylvania to work in the Beaver Falls Cutlery Company. [79] In 1873, Chinese American workers were brought to Indianapolis, Indiana, and to Augusta, Georgia to work on construction projects. [80] It appears that there were not enough Chinese American workers, for in 1870, 200 Chinese were brought from Hong Kong to work in the Arkansas Valley. [81]

While some of these workers were used as strikebreakers, it should be kept in mind that White unions would not allow Chinese Americans to join them at that time. Furthermore, White unions would not support strikes by Chinese American workers, nor would they agree to the principle of equal pay for equal work, regardless of race. [82]

Rather than damaging the economy and bringing on a depression, which they were charged with doing, Chinese Americans greatly aided the development of the state of California. A full assessment of their contribution has not yet been made, but their contribution in land reclamation and railroad construction alone is impressive. Reclaimed lands, which originally cost \$1 to \$3 per acre, increased in value from \$20 up to \$100 per acre. In the mid-1870s, a former surveyor general of the state estimated that the increase in the value of the property in the state due to Chinese labor building the railroads and reclaiming tule lands was \$289,700,000. [83]

Settlement Patterns

In Chinese, San Francisco was known as Dai Fou ("the big city"). Sacramento, which many Chinese miners passed through on the way to the northern mines, was known as Yi Fou ("the second city"). Marysville, which was the supply center for the northern mines, was called Sam Fou ("the third city"). In all, there were 286 cities or towns with such large Chinese American populations in 1870 that the names of these cities and towns were translated into Chinese characters phonetically. Wells Fargo Express Company agents had to learn these names in order to deliver mail and packages from China. [84]

Early Chinese immigrants settled throughout California. By 1860, they had settled in all but five counties of the state, and by 1870, they lived in every county, working in a wide variety of occupations. [85] The first permanent Chinese settlement in Los Angeles was made in 1856, when three men decided to stay there. Within four years, they had been joined by at least 16 others. [86] In the 1860s, Chinese workers were brought to Santa Barbara County from Canton by Colonel W. W. Hollister to work on his Goleta Valley estate and to serve as bus boys, chefs, and waiters in his hotel. [87]

Segregation of Chinese Americans began in the mining districts, where Chinese Americans were forced to live in the least desirable sections of towns. In Marysville, Yreka, and elsewhere, Chinese Americans could live only along the river, which was subject to flooding. In Mendocino, they could live only on the swampy headlands next to the ocean. In Fiddletown in Amador County, there was no undesirable section of town, so a natural boundary, a stream that ran across the main street, was used to divide the Chinese American from the White section of town. While some White businesses were allowed to locate in the Chinese section, no Chinese American homes or businesses were permitted in the White section of Fiddletown. [88]

Once segregated, Chinese American communities were often denied public services available to other taxpayers. By the 1860s, the city of Ventura in Ventura County had a community of about 200 Chinese Americans. Recent evidence has been uncovered to show that they were denied use of Ventura's water and sewer facilities. They probably could not rely on the municipal fire department either, for in 1876 they established their own fire brigade with a two-wheeled cart and 100 feet of hose. This company was active for at least 30 years, and was often mentioned as being first on the scene. [89]

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A History of Chinese Americans in California: THE 1870s

Racial Violence

One of the most savage and brutal events involving Chinese Americans was the Los Angeles Massacre on October 24, 1871. The incident began with a quarrel between Chinese, who shot at each other. The shooting attracted a large crowd of White spectators. When one of the spectators was accidentally shot and killed, the crowd began to riot and to threaten any Chinese Americans in the vicinity. Homes and businesses were looted. It has been estimated that the loss to Chinese Americans in money was from \$30,000 to \$70,000. Later, the coroner's jury reported that 19 Chinese Americans had died at the hands of a mob on October 24, 1871, and that only one of them was implicated in the shooting of the White man. The leaders of the mob escaped punishment. [90]

A series of fires destroyed Chinese American communities in Yreka (1871), Chico (1873), and Weaverville (1874). [91] In 1874, a meeting was held in Fresno to prevent Chinese Americans from moving into the White section of town. [92] Anti-Chinese riots in San Francisco began at a meeting of the Workingmen's Party and lasted three days, during which Chinese American property was looted and burned and several Chinese were killed. [93]

After a White rancher was murdered, allegedly by a Chinese, Rocklin's Chinese American buildings were pulled down and set afire along with buildings at China Gardens on the outskirts of town, and the people were given just a few hours to leave town. Because of the Rocklin incident in Placer County, Chinese Americans were also expelled from Loomis, Penryn, Grass Valley, and other nearby towns; they fled to Folsom for safety. [94]

The Anti-Chinese Movement

Chinese Americans who faced discrimination in other occupations often set up laundry businesses to earn a living. Chinese laundries at first faced no competition, since washing and cooking were considered women's occupations unsuitable for self-respecting White men. However, as laundries provided a steady income, many Chinese American laundrymen prospered. Men of other nationalities began to reconsider the laundry business, and set up competing establishments. In 1876, the Anti-Chinese and Workingmen's Protective Laundry Association was incorporated in San Jose. Subsequently, many laundries, like the Hi Chung Laundry in Elmira, Solano County, went out of business. [95]

In San Francisco, a series of discriminatory local laws was passed in the early

1870s. The Cubic Air Ordinance regulated the size of living and working quarters. The Sidewalk Ordinance forbade the use of poles, such as Chinese traditionally used, to carry bundles. The Queue Ordinance required Chinese in jail to cut their queues (their long braided hair), even though they would not be able to return to China without them. A series of laundry ordinances required Chinese American laundries to pay higher taxes than other laundries, and regulated the types of buildings in which laundry businesses could be housed.

Enactment of these local laws was followed by a series of lawsuits by Chinese Americans who succeeded in overturning all except the Sidewalk Ordinance. The most celebrated lawsuit was the Yick Wo Laundry Case, whose owner Lee Yick successfully challenged the validity of a law that would have been used to drive the Chinese out of the laundry business. In addition, his lawsuit established the principle that a law is discriminatory, even if its wording is not discriminatory, if it is applied in a discriminatory manner. [96]

Some discriminatory legislation was challenged by White business men who needed Chinese American workers. When the California Legislature passed a law prohibiting corporations holding state charters from employing "any Chinese or Mongolian," the president of Sulphur Bank Mine in Lake County defied the law and had it nullified. [97]

A law requiring the San Francisco Board of Supervisors to increase the size of the police force was passed in 1878. However, special police were still needed to supplement the regular force, and could be hired to protect businesses and property throughout the city except in the Chinese Quarter. The new law prohibited the employment of special police within the Chinese Quarter, the boundaries of which were set by police commissioners. [98] One of the results of this law was to encourage the growth of tongs, providing protection otherwise lacking.

Establishment of boundaries for the so-called "Chinese Quarter" shows that Chinese Americans who at first were able to live throughout the city had, by 1878, been segregated into one section of the city. The fact that boundaries were to be established from time to time by police commissioners suggests that police may have had a role in enforcing segregation. Prohibition of special police officers for the Chinese Quarter indicates a denial of equal or sufficient law enforcement.

Continuous agitation by anti-Chinese organizations and labor unions led to a congressional hearing on the question of Chinese immigration in San Francisco in 1876. Although congressional committees recommended prohibition of Chinese immigration, this could not be done until the Burlingame Treaty between China and the United States was amended.

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A History of Chinese Americans in California: THE 1880s

Exclusion

The Burlingame Treaty was amended in 1880. After steadily mounting agitation, the Chinese Exclusion Law was passed in 1882 by the United States Congress, and signed by President Chester A. Arthur. Under this law, Chinese laborers, unskilled or skilled, were excluded from entering the United States for 10 years. Only merchants, diplomats, tourists, students, and teachers were allowed to enter the country. Under these categories, professional people, such as herbalists, were sometimes considered as laborers. Merchants could bring their wives to this country, but laborers could not. Chinese American workers were forced to decide whether they should return to China, or remain in this country to work and possibly never see their families again. [99]

Expulsion

Enactment of the Exclusion Law was followed by expulsion of Chinese Americans from various localities. Before 1885, for example, Chinese American miners faced hostility in Humboldt County despite the amount of Foreign Miners' taxes they had paid that contributed to the economy of the country. Before 1885, restaurants in Eureka, the county seat, advertised in local newspapers that they did not employ Chinese help. In addition, there was considerable agitation in the county for the Chinese Exclusion Law. Finally, on February 6, 1885, an event occurred that provided a pretext for moving all Chinese Americans out of the county and shipping them bodily to San Francisco, along with as much of their property as they could pack in 48 hours.

On February 6, Councilman David Kendall was accidentally shot and killed, allegedly by Chinese Americans. Instead of punishing the guilty, White citizens decided that all Chinese Americans must leave the country, never to return. Chinese American merchants lost the goods in their stores since they could not pack them in time, and Chinese American families lost their household furnishings. The steamer *Humboldt* carried 135 to San Francisco, and the steamer *City of Chester* took 175. When this news reached the Chinese Six Companies, they brought suit against the City of Eureka for \$6,000,000 in damages they claimed the Chinese Americans from Eureka had suffered. After several months, the suit was concluded with the ruling that the Chinese Americans should be compensated for property damage (there was none) but not for business losses, which were extensive. [100]

Del Norte County, on the coast of California north of Humboldt County,

followed suit. Citizens of Del Norte County had no particular pretext of their own, but on January 31, 1886, they expelled virtually all Chinese Americans from the county, and sent them by boat to San Francisco. [101]

Around the time of these expulsions, a series of fires occurred throughout the state, some of suspicious origin. In 1881, buildings of the Chinese American community in Dutch Flat burned a second time, causing a loss of about \$30,000 and some 60 buildings. [102] In 1886, a group of 30 masked men from Wheatland, Yuba County, raided Chinese American workers on H. Roddan's ranch, beat 11 hop pickers, then burned down the Chinese American bunkhouse on C. D. Wood's ranch. [103] In May 1887, a fire destroyed San Jose's Chinese American community under suspicious circumstances. Newspapers on the following day noted that the fire had started in three places at once and that water tanks were empty at the time. Three months earlier, the San Jose City Council had discussed the abatement of Chinatown, and had directed their attorneys to find legal ways of doing so [104] About a week after the San Jose fire, a fire destroyed about \$50,000 worth of property in Fresno's Chinese American community. There was a high wind and no water. [105] In October 1887, fire almost totally destroyed Chico's Chinese American community, and "to cap the disaster, the firehose was chopped in four places during the conflagration, evidently by persons who hated the Chinese at this time." [106]

In 1888, Congress passed the Scott Act, which barred re-entry of Chinese laborers to the United States, even if they left the country only temporarily. [107] Many men who had gone back to China to visit their families and had left property and business ventures in this country were prevented from returning. As a result of the Chinese Exclusion Law, the Scott Act, and racial discrimination, Chinese immigration to the United States showed a 40% decline between 1880 and 1890. [108] Before 1880, Chinese immigration to the United States had increased steadily.

Ironically, one of the results of the Exclusion Law and the Scott Act was a shortage of Chinese American workers. Since there were not enough of them to fill the demand, they were able to obtain a higher rate of pay. [109]

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A History of Chinese Americans in California: THE 1890s

The Gay Nineties were not carefree years for Chinese Americans or their relatives in China. In 1892, Congress passed the Geary Act, which extended the Chinese Exclusion Law of 1882 for another 10 years, and also added the requirement that all Chinese living in the United States obtain certificates of residence. Insufficient effort was made to explain this requirement to people whose understanding of English was limited, nor was the regulation sufficiently publicized. Raids by immigration authorities were conducted on various Chinese American communities, and people without residence certificates were held for [\[110\]](#)

Fires and racial violence forced many Chinese Americans to leave the countryside, and may have encouraged some of them to return to China. In 1893 alone, most buildings of the second Chinese American community in Riverside were destroyed by fire. [\[111\]](#) Five hundred Chinese American men were forced by terrorists to leave their jobs in nurseries and vineyards around Fresno. [\[112\]](#) There were anti-Chinese riots in Redlands, San Bernardino County, by 400 Whites, and the National Guard had to be called in. [\[113\]](#) The final result of discriminatory laws and racial violence during the 1880s was a 37% decrease in California's Chinese American population. [\[114\]](#)

The Chinese American Cemetery in Nevada City, Nevada County, is an important historic site of the 1890s. Among all segregated cemeteries that were once so numerous throughout California (since Chinese Americans were not allowed to be buried in White cemeteries), the Nevada City Chinese American Cemetery is one of the few which still has a burner for paper money and other offerings, and parts of its original fence and gate. It is the only one with a monument to a single individual, who died in 1891 and who must have been quite wealthy and influential. The name on the monument has been defaced by vandals. The size and elaborateness of the monument indicates that this was not intended as a temporary burial site, but as a permanent resting place for the deceased.



Weaverville Chinese American family, Trinity County [circa 1890]

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A History of Chinese Americans in California: THE 1900s

Quarantine And Its Aftereffects

After the turn of the century, discrimination against Chinese Americans culminated in two acts, the quarantine of San Francisco's Chinatown, and indefinite extension of the Chinese Exclusion Act of 1882. The reason San Francisco's Chinatown was quarantined was that the body of a Chinese laborer was found, and it was suspected that he had died of bubonic plague. While the cause of death was still undetermined, a cordon was placed around Chinatown, and no Chinese American was allowed to leave the area bounded by California, Kearny, Broadway, and Stockton streets. This restricted the freedom of movement of people, some of whom were American citizens. It caused them many hardships, for they had difficulty in obtaining goods and services from people outside Chinatown. There was a shortage of food, and prices increased sharply. Chinese American businessmen faced a loss of income, and workers a loss of wages. Finally, after three and a half months, it was found that there were no cases of bubonic plague within Chinatown. This lengthy quarantine of Chinatown was motivated more by racist images of Chinese as carriers of disease than by actual evidence of the presence of bubonic plague. [115]

Chinese American pioneers lived throughout the state of California, wherever there was a chance to earn a living. But they were driven off mining claims, terrorized by vigilantes, removed on short notice from two counties and shipped to San Francisco. Once in San Francisco, they could not live where they pleased, but had to crowd together in one section of the city, the so-called "Chinese Quarter," later referred to as Chinatown. The quarantine represented the final step in segregation of San Francisco's Chinese Americans. The symbolism of the rope cordon was carried forth for four decades as an invisible boundary, beyond which Chinese Americans dared not pass without the risk of being insulted and even physically abused.

The Chinese Exclusion Law of 1882 was renewed in 1892 and 1902, and then extended indefinitely in 1904. [116] It prevented Chinese Americans who were not merchants from bringing their families to this country. Since there were far more unmarried Chinese American men than women here, and since the anti-miscegenation laws prevented Chinese American men from marrying White women, it condemned the men to bachelorhood.

Recovery From San Francisco Earthquake

These events were capped by a natural disaster, the San Francisco earthquake

and fire of 1906. Virtually all buildings in Chinatown were destroyed, and efforts were made to relocate Chinese Americans from the downtown area to less desirable portions of the city. These efforts failed, and thus represent a turning point in the fortunes of Chinese Americans. Destruction of birth certificates in the earthquake enabled some Chinese Americans to claim citizenship by reason of birth in this country. When the offices of the *Chung Sai Yat Pao* in San Francisco were destroyed, the newspaper moved to Oakland. Its editor, Dr. Ng Poon Chew, went on to become a spokesman and advocate of civil rights for the Chinese American community. [117]

When the offices of the Precita Canning Co. in San Francisco, whose officials and board of directors were all of Chinese ancestry, were destroyed in the earthquake, the company changed its name to the Bay Side Canning Co. and relocated to Alviso in Santa Clara County. It had been founded in 1890 by Sai Yin Chew, whose son, Thomas Foon Chew, later increased the size of its operations to include canning plants in Alviso, Isleton, and Mayfield, and extensive farm lands in the Sacramento Delta. Commodities canned at the Alviso plant were spinach, asparagus, cherries, apricots, plums, peaches, pears, tomatoes, catsup, tomato sauce, hot sauce, tomato puree, fish sauce, fruits for salad, vegetables for salad, and later, fruit cocktail. The Isleton Plant canned mainly spinach and asparagus. The Bay Side Canning Co. was one of the largest canning companies in the early twentieth century, even surpassing Del Monte at one time. [118]

One of the unique institutions of San Francisco's Chinatown was the Chinese American Telephone Exchange. In 1891, the first public telephone pay station was installed in Chinatown. In 1894, a small switchboard was set up to serve subscribers to the telephone system. Telephone operators knew each subscriber by name, so telephone numbers were not necessary. They also knew the address and occupations of subscribers so they could distinguish between two subscribers of the same name. In addition, they had to know several Chinese dialects besides English. Although the offices of the exchange were destroyed by the earthquake, they were rebuilt afterward, and remained in operation until 1949. [119]

Though the ambitions of many Chinese Americans were thwarted by racism and employment discrimination, these people did not give up. For example, on September 21, 1909, young Chinese American inventor and aviator Fung Joe Guey, circled through the air for 20 minutes back of Piedmont, Alameda County, in a biplane of his own manufacture, embodying his own ideas in aeroplane manufacture. [120]

The main focus of this Chinese American Survey is on nineteenth-century Chinese American historic sites. A few twentieth-century sites were included for continuity. Following are a few of the significant events in twentieth-century Chinese American history:

- After the revolutionary uprising of October 10, 1911, which led to the establishment of a republic in China, many Chinese Americans went back to China with hopes of a bright future there, free from racism, but many others remained here.
- Some Chinese Americans served in the U.S. Armed Forces in World War I, and became heroes. On June 13, 1919, Sing Kee returned home to

San Jose after receiving the Distinguished Service Cross for bravery in action with the 77th or "Liberty" Division in the Argonne Forest. He was given a hero's welcome, along with Jue Tong, another Chinese American war hero. [121] Two important historic sites from this period are the town of Locke and the immigration station on Angel Island.

- Discrimination against Asian immigrants continued in the 1920s. In 1924, the Immigration Exclusion Act was passed, which stated that all immigrants "ineligible for citizenship" were denied admission to the United States. [122] Two historic sites from the twenties are the Confucius Church and Community Center in El Centro, Imperial County, and the Wong Mansion in Stockton, San Joaquin County.
- Finally in the 1930s, restrictions began to ease. In 1930, Congress passed an act providing for admission of Chinese wives who were married to American citizens before May 26, 1924. Then in 1935, more than 15 years after the end of World War I, Public Law 162 granted several hundred Asian veterans who served in the United States Armed Forces during World War I the right to apply for United States citizenship through naturalization. [123] Two important historic sites from this period are the House of China in San Diego and the Suey Hing Benevolent Society building in Watsonville, Santa Cruz County.
- On December 13, 1943, President Franklin D. Roosevelt signed the momentous "Act to Repeal the Chinese Exclusion Acts, to Establish Quotas, and for Other Purposes." Although the Chinese Exclusion Acts were thus repealed, it was not until 1965 that national-origin quotas were abolished. [124]



Salinas Confucius Church, Monterey County

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Underlined sites are links to more detailed reports.

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 2. **Ah Louis Store**, San Luis Obispo County
 3. **Auburn Chinese American Cemetery**, Placer County
 4. **Auburn Chinese American Community**, Placer County
 5. **Bartlett Springs Toll Road**, Lake County
 6. **Bay Side Canning Company**, Santa Clara County
 7. **Beringer Brothers Winery**, Napa County
 8. **Big Gap Flume**, Tuolumne County
 9. **Bismark Site**, San Bernardino County
 10. **Bodie Chinese American Community**, Mono County
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11. **Bok Kai Miu**, Yuba County
 12. **Brookside Winery**, San Bernardino County
 13. **Buena Vista Store**, Amador County
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31. **Double Springs Courthouse**, Calaveras County
 32. **Earl Fruit Company Site**, Orange County
 33. **Eureka Chinese American Community Site**, Humboldt County
 34. **Fiddletown's Chinese American Community**, Amador County
 35. **Folsom Chinese American Cemetery**, Sacramento County

36. **Fong Wah Cemetery**, Siskiyou County
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40. **Harmony Borax Works**, Inyo County

41. **Hercules Powder Plant**, Contra Costa County
42. **Hi Chung Laundry**, Solano County
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44. **John Swett Winery Site**, Contra Costa County
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46. **Kong Chow Temple Site**, San Francisco
47. **L. T. Sue Herb Co.**, Kings County
48. **Lang Station Site**, Los Angeles County
49. **Let Sing Gong**, Kern County
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52. **Locke**, Sacramento County
53. **Los Angeles Chinese American Community**, Los Angeles County
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56. **Markleeville Chinese American Cemetery**, Alpine County
57. **Marysville Chinese American Community**, Yuba County
58. **Ming's Store**, Amador County
59. **Mo Dai Miu (Temple of Kuan Kung)**, Mendocino County
60. **Nevada City Chinese American Cemetery**, Nevada County

61. **Old Chinese Herb Shop**, Nevada County
62. **Oriental Street**, San Bernardino County
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66. **Quincy Chinese American Cemetery**, Plumas County
67. **Riverside Chinese American Community Site**, Riverside County
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71. **San Jose Chinese American Cemetery**, Santa Clara County
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73. **Santa Ana Valley Irrigation Tunnel**, Orange County
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76. **Sing Kee's Store**, Amador County
77. **Stone House**, El Dorado County
78. **Stone Walls**, Santa Clara County
79. **Suey Hing Benevolent Society**, Santa Cruz County
80. **Suey Sing Store**, Yuba County

81. **Sulphur Bank Mine**, Lake County
82. **Sun Sun Wo Co.**, Mariposa County
83. **Sze Yup Cemetery**, Trinity County

84. **Taoist Temple**, Kings County
 85. **Taoist Temple**, San Joaquin County
 86. **Wah Hop Store and China Bank**, El Dorado County
 87. **Walnut Grove Chinese American Community**, Sacramento County
 88. **Way-Aft-Whyle**, Lake County
 89. **Wells Fargo Co./Chinese Laundry**, Nevada County
 90. **Wheatland Chinese American Cemetery**, Yuba County
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91. **Wing Chong Store**, Monterey County
 92. **Wong Mansion**, San Joaquin County
 93. **Won Lim Miu (Temple)**, Trinity County
 94. **Yreka Chinese American Cemetery**, Siskiyou County
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A History of Japanese Americans in California: INTRODUCTION

The history of ethnic minorities in California is characterized by adversity, hard work, community initiative, heartache, triumphs, indomitable spirits, and hope for the future. People of color in the United States have often been depicted as helpless victims of discriminatory practices and legislation, with little appreciation of their strengths, how they struggled with adversity, and how they established and defined themselves in all aspects of their lives. What has been of value to their communities has frequently gone undocumented; neither their spirit nor their energy has been fully depicted. This is as true for Japanese Americans in California as for other minorities.

Concern for these matters influenced the selection of places associated with the history of Japanese Americans in California. That is, the places selected for inclusion in this report not only relate to the Japanese experience in California, they also reflect the attempts of Japanese Americans to establish themselves in all aspects of life — economically, educationally, socially, religiously, politically, and artistically. The selected properties reflect both events and actions directed against Japanese Americans, as well as the efforts they made to determine the nature and direction of their own lives.



Terminal Island, Los Angeles County [circa 1919]

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A History of Japanese Americans in California: IMMIGRATION

One of the first groups of settlers that came from Japan to the United States, the Wakamatsu Tea and Silk Farm Colony under the leadership of John Schnell, arrived at Cold Hill, El Dorado County, in June 1869. Additional colonists arrived in the fall of 1869. These first immigrants brought mulberry trees, silk cocoons, tea plants, bamboo roots, and other agricultural products. The U.S. Census of 1870 showed 55 Japanese in the United States; 33 were in California, with 22 living at Gold Hill. Within a few years of the colony's founding, the colonists had dispersed, their agricultural venture a failure.



Wakamatsu Tea and Silk Farm Colony, El Dorado County

The 1880 Census showed 86 Japanese in California, with a total of 148 in the United States. Possibly these were students, or Japanese who had illegally left their country, since Japanese laborers were not allowed to leave their country until after 1884 when an agreement was signed between the

Japanese government and Hawaiian sugar plantations to allow labor immigration. From Hawaii, many Japanese continued on to the United States mainland. In 1890, 2,038 Japanese resided in the United States; of this number, 1,114 lived in California.

Laborers for the Hawaiian sugar plantations were carefully chosen. In 1868, a group of Japanese picked off the streets of Yokohama and shipped to Hawaii had proved to be unsatisfactory. Thereafter, a systematic method of recruiting workers from specific regions in Japan was established. Natives from Hiroshima, Kumamoto, Yamaguchi, and Fukushima were sought for their supposed expertise in agriculture, for their hard work, and for their willingness to travel. Immigrants to California from these prefectures constituted the largest numbers of Japanese in the state.

Except for a temporary suspension of immigration to Hawaii in 1900, the flow of immigration from Japan remained relatively unaffected until 1907-08, when agitation from white supremacist organizations, labor unions, and politicians resulted in the "Gentlemen's Agreement," curtailing further immigration of laborers from Japan. A provision in the Gentlemen's Agreement, however, permitted wives and children of laborers, as well as laborers who had already been in the United States, to continue to enter the country. Until that time, Japanese immigrants had been primarily male. The 1900 Census indicates that only 410 of 24,326 Japanese were female. From 1908 to 1924, Japanese women continued to immigrate to the United States, some as "picture brides."



Japanese Picture Brides at Angel Island, Marin County [circa 1919]

In Japan, arranged marriages were the rule. Go-betweens arranged marriages between compatible males and females, based on careful matching of socio-economic status, personality, and family background. With the advent of photography, an exchange of photographs became a first step in this long process. Entering the bride's name in the groom's family registry legally constituted marriage. Those Japanese males who could afford the cost of traveling to Japan returned there to be married. Others resorted to long-distance, arranged marriages. The same procedure that would have occurred if the groom were in Japan was adhered to, and the bride would immigrate to the United States as the wife of a laborer. Not all issei were married in this

manner, but many were. For wives who entered after 1910, the first glimpse of the United States was the Detention Barracks at Angel Island in San Francisco Bay. New immigrants were processed there, and given medical exams. As a result, this was the place where most "picture brides" saw their new husbands for the first time.

Those hoping to rid California of its Japanese population thought the Gentlemen's Agreement would end Japanese immigration. Instead, the Japanese population of California increased, both through new immigration and through childbirth. Anti-Japanese groups, citing the entry of "picture brides," complained that the Gentlemen's Agreement was being violated. A movement to totally exclude Japanese immigrants eventually succeeded with the Immigration Act of 1924. That legislation completely curtailed immigration from Japan until 1952 when an allotment of 100 immigrants per year was designated. A few refugees entered the country during the mid-1950s, as did Japanese wives of United States servicemen.

The pattern of immigration has left its mark on Japanese communities to this day. While immigrants before 1924 were uniformly young, the delay in immigration of women resulted in many marriages in which the husband was considerably older than the wife. Immigration of women between 1908 and 1924 also meant that the majority of children (nisei) were born within a period of 20 years, 1910-1930. Researchers during World War II noted that rather than a normal curve, the Japanese population in the United States was bi-modal — an age group for the original immigrants and another for their children. This has influenced the ways in which Japanese communities have been organized, e.g., the need every 25 years or so to have facilities and organizations oriented to children, with long periods of time when such facilities were not needed. Consequently, large numbers of nisei would enter the job market at the same time, and they would have children at about the same time. The immigration pattern is also reflected today among issei who are still living. The vast majority are women. Eighty-five percent of the clientele of Kimochi-Kai and other Japanese senior citizen organizations in California's major cities are women.

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History



A History of Japanese Americans in California: PATTERNS OF SETTLEMENT AND OCCUPATIONAL CHARACTERISTICS

Most Japanese immigrants entered the United States through San Francisco. Other ports-of-entry were Portland, Oregon and Seattle, Washington. As a result, the first large settlement of Japanese in California was in San Francisco. U.S. Census figures trace the movement and settlement of Japanese over the years.

In 1890, 590 Japanese were in San Francisco, with 184 in Alameda County and 51 in Sacramento County. A scattering of residents appeared throughout California, with the smallest number in the Southern California area. Little is known about these early Japanese immigrants. Speculation is that they worked for the railroad, were laborers, or performed miscellaneous tasks, such as chopping wood or domestic service. By 1890, the move into agricultural work had begun in the Vacaville area, Solano County. By then a Japanese had been buried in the Visalia Public Cemetery in Tulare County, and labor contractors were beginning to gather new immigrants to work in a number of industries such as the railroads, oil fields, and agriculture.

By 1900, the same Northern California counties still had the largest numbers of Japanese, but the population had increased tremendously with movement into other parts of the state. San Francisco had 1,781 Japanese, Sacramento County 1,209, and Alameda County 1,149. In addition, Monterey County had 710, Fresno County 598, San Joaquin County 313, Santa Clara County 284, Contra Costa County 276, and Santa Cruz County 235. Agricultural work drew immigrants to what were then rural areas. In many communities, *nihonmachi* (Japanese sections of town) were developed, with establishment of small businesses catering to the needs of immigrants. By 1900, Southern California had a Japanese population of approximately 500, with the largest concentration in Los Angeles County. But already the immigrants had begun efforts to establish themselves. Ulysses Shinsei Kaneko, for example, became one of the first Japanese naturalized in California, in San Bernardino County in 1896. Businesses in towns and cities had been in operation for almost a decade. Buddhist churches and Japanese Christian churches had been established earlier. Japanese had purchased property, and a few nisei children had been born.

City trades included domestic service and businesses catering to other Japanese — boarding houses, restaurants, barbershops, bathhouses, gambling houses, and pool halls. Labor contractors drew immigrants away from the cities to work for the railroads, canneries, and farms. Japanese laborers were

an important element in California agriculture by the turn of the century.

Other immigrants initiated their own enterprises and industries. Some of these included industries the Chinese had pioneered earlier. Fishing and abalone industries developed at White Point and Santa Monica Canyon in Los Angeles County, and at Point Lobos in Monterey County. Kinji Ushijima, also known as George Shima, continued the reclamation work begun by Chinese in the Sacramento/San Joaquin Delta. Shima eventually reclaimed more than 100,000 acres of land with the help of many laborers. The land now grows potatoes, asparagus, onions, and other produce.

Between 1900 and 1910, Japanese began to buy property and establish farms, vineyards, and orchards. All-Japanese communities developed in agricultural areas in central California, including Florin in Sacramento County (which the Japanese called *Taishoku*), Bowles in Fresno County, and the Yamato Colony at Livingston in Merced County.



Yamato Colony, Merced County [circa 1911]

By 1910, a distinct change had occurred in the California Japanese population, which then numbered 41,356. A move to the southern part of the state began, and the number of women in the community steadily increased. By the late 1920s, females constituted one-third of the Japanese population. Los Angeles County became the most populous Japanese settlement, with 8,461, and has remained so to this day. A major stimulus for the move south was the rapid expansion of the Los Angeles area during the Southern California boom period. Many Japanese also migrated to Los Angeles in 1906 after the San Francisco earthquake.

San Francisco remained the second most populous, however, with 4,518 Japanese. Next came Sacramento County with 3,874, Alameda County with 3,266, Santa Clara County with 2,299, and Fresno County with 2,233. Other counties having more than 1,000 Japanese included Contra Costa, Monterey, and San Joaquin. The large increases in the population were a reflection of unrestricted immigration of male laborers until 1908, entrance of Japanese women into the United States, and the resultant increase in the birth of children. Numerous *nihonmachi* had been established in California, ranging from Selma's one block of businesses catering to Japanese in Fresno County,

to whole sections of town in San Francisco, Los Angeles, and San Jose.

The Japanese population of Los Angeles County more than doubled by 1920, increasing to 19,911, more than three times as many as the next most populous county, Sacramento, with 5,800. California's total Japanese population numbered 71,952. Fresno County had 5,732, San Francisco 5,358, and Alameda 5,221. San Joaquin County increased its population of Japanese to 4,354. Other counties with Japanese populations of more than 1,000 included Monterey, Orange, Placer, San Diego, Santa Clara, Santa Cruz, and Tulare. This population increase was due almost to tally to the immigration of women and the birth of children. By this time, the economic basis of the Japanese community had been firmly established in agriculture and its offshoots — wholesaling, retailing, distributing. The Japanese organized their produce and flower industries vertically, resulting in a system in which all operations were owned and operated by Japanese, from raising the plants to retail sales. This resulted in organizations such as the Southern California Flower Market in Los Angeles, the California Flower Market in San Francisco, Lucky Produce in Sacramento, and the City Market in Los Angeles. Cooperatives like Naturipe in Watsonville, Santa Cruz County, were organized to improve the growing, packing, and marketing of crops produced by Japanese farmers.

Small businesses were numerous at this time. Many of the "city trades" were directly tied to rural occupations, particularly agricultural labor. Businesses such as boarding houses, hotels, restaurants, barber shops, and gambling houses were dependent on the constant traffic of single male laborers who traveled a circuit in California from one crop to the next, from the Imperial Valley to the Sacramento Valley. The Miyajima Hotel, a boarding house in Lodi, San Joaquin County, was one such business catering to agricultural laborers. Other city businesses were also oriented toward farming interests. For example, a number of Japanese entrepreneurs operating general merchandise stores had regular routes to the surrounding countryside, taking orders and making deliveries for food and other supplies. Kamikawa Brothers in Fresno and Tsuda's in Auburn provided this service.

During the decade of 1910-20, Japanese farmers became important producers and growers of crops: Truck farming along the coast, in the Central Valley, and in Southern California; grapes and tree fruit in the Central Valley and Southern California; strawberries in a number of different locations; and rice in Northern California. Japanese were very much involved in experimenting with different strains of rice at the Biggs Rice Experiment Station in Butte County where Kenju Ikuta demonstrated that rice could be produced commercially. In addition, a large number of other Japanese were engaged in farming, distributing, and retailing of rice during this period. In later decades, Keisaburo Koda, known among the Japanese as the "rice king," established a ranch near Dos Palos in Merced County, where he produced new strains of rice.

The 1930 census shows that Los Angeles County still had the most Japanese, almost doubling its population, to 35,390. California's Japanese population numbered 97,456. Los Angeles had more than four times as many Japanese as did the second county, Sacramento, which had 8,114. Close in number were San Francisco with 6,250, Alameda with 5,715, Fresno with 5,280, San Joaquin with 4,339, and Santa Clara with 4,320. Again, the

increase can be attributed to immigration of Japanese women as well as the birth of children. Because immigration was totally curtailed in 1924, however, the birth of children probably was the more important reason, numerically speaking. Another source for population increases was migration from other parts of the country. Some Japanese residents of Seattle, Washington, for example, moved to Los Angeles County during the 1930s because of increased economic opportunities during a period of nationwide depression.



Concord Nippon Gakko, Contra Costa County [circa 1926]

This period, however, was a time of growth for most nihonmachi throughout California. Almost every agricultural area with a population of Japanese residents had a flourishing Japanese section of town. Cooperatives established in previous years were functioning at their peak. Nisei children were in schools and beginning to enter the labor market. This subtle change can be noted in such things as Japanese-language newspapers adding English sections to their publications, and Japanese church youth organizations being organized.

The 1940 census shows little change from the 1930 figures. During this decade, the Japanese population of California decreased from 97,456 to 93,717, although a few counties like Los Angeles continued to increase. During the years 1942-45, Japanese Americans were incarcerated in 10 fenced and guarded concentration camps. Two of these camps were located in California: Manzanar in Inyo County and Tule Lake in Modoc County. The camp at Tule Lake did not close until March 1946. Encouraged by the War Relocation Authority to resettle in the East and Midwest, approximately one-third of the internees chose this alternative. Some never returned to the West Coast.

Those who did return had to rebuild lives that had been dramatically altered by the concentration camp experience. In some communities, one-third or more of the Japanese population did not return. Moreover, some nihonmachi did not survive. Non-Japanese businesses and residents had moved into sections of town previously occupied by Japanese Americans. The war was also a turning point in generational control of businesses, churches, and community politics, as the adult children of immigrants began to dominate

in all spheres of Japanese activities.

The Japanese population of California decreased to 84,956, according to the 1950 census. Los Angeles County had the largest population, with 36,761. San Francisco, Alameda, Fresno, Sacramento, and Santa Clara counties each had 4,000-6,000 Japanese residents. This period was one of intensive efforts to re-establish Japanese American communities. After serving as hostels for returning internees, churches re-instituted their usual activities and services. The struggle for economic survival began anew. Those nihonmachi able to be rebuilt were again the centers of the Japanese American community, but were less oriented to the immigrant generation. For example, during the 1930s, landscape gardening emerged as an occupation. It gained in importance after World War II as the numbers of nisei working as gardeners increased.

The decade 1950-60 saw almost a doubling of the Japanese population in California, to 157,317. Los Angeles County again led the state with 77,314, more than seven times the number in Santa Clara County, which had 10,432 Japanese residents. This large increase is generally attributed to the birth of sansei, the third generation of Japanese. A secondary but far less important reason numerically was the gradual return to the West Coast of individuals who had resettled to other areas during the World War II internment. A minor increase may also be attributed to Japanese women immigrating from Asia as wives of U.S. servicemen.

The birth of children resulted in a resurgence of activities in churches, Japanese-language schools, and athletic leagues. The Japanese population had made the transition from a rural to an urban population with the economic base less oriented to agriculture, although this was still important. In urban areas, Japanese women frequently worked in secretarial-clerical positions, while men obtained jobs in technical professional areas. This pattern generally holds true today, although with sansei children in their adult years now, there is increasing technical and professional training, and occupations of greater diversity for both males and females.

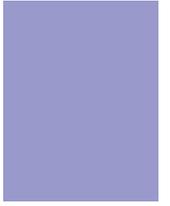
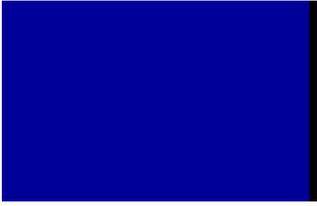


Little Tokyo, Los Angeles County [circa 1919]

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A History of Japanese Americans in California: ORGANIZATIONS AND RELIGIOUS PRACTICES

The first Japanese American community organization of record in the United States was the Gospel Society or Fukuin Kai, established in October 1877 in San Francisco. The Gospel Society offered English classes, operated a boarding house, and provided a place for Japanese to meet. With the influence of White Christians, the religious orientation of the society developed. Out of this organization eventually came the Japanese Christian churches, some of which were established in the 1890s.

The issei established three types of organizations in the communities they settled: churches, political/social organizations called by various names, and Japanese-language schools. Churches, whether Christian, Buddhist, or Shinto, were the focus of activity for most Japanese communities, and often were the earliest organizations to be established. Subsequently, churches expanded beyond religious services as women's organizations (*fujinkai*) became active, and youth groups were established with the advent of children. The churches provided both religious sustenance and a social life. It is estimated that before World War II, 85 percent of Japanese were Buddhist. Possibly the sole Japanese American community with only a Christian church was Livingston (Yamato Colony). During the World War II internment, churches served as storage centers for personal property left behind by Japanese Americans, and as hostels for returning evacuees. The churches themselves organized into umbrella groups such as the Buddhist Churches of America, the Japanese Evangelical Mission Society, the Holiness Conference, and the Northern and Southern California Christian Church Federation. Most of the original congregations still exist today.

The political/social organizations were organized under different names, depending on the community. Some of these names were *doshikai*, *kyogikai*, and *nihonjinkai* (Japanese Association). All Japanese were assumed to belong to political/social organizations which dealt with issues affecting the total Japanese American community. Often, they had their own offices or buildings for conducting business and holding meetings. Association leaders were spokespersons for the community in dealings with the larger community, and worked as intermediaries in differences of opinion or conflicts. Decisions were made by male members of the organization. Sometimes, a women's organization (*fujinkai*) was attached to this organization. Many of these organizations died with the World War II internment. Properties were signed over to the nisei, and records were lost or destroyed during this period. Today, only a few of the original organizations still exist and function.

As nisei children grew older, Japanese-language schools flourished throughout the state. The first Japanese-language school of record in the state was Shogakko in San Francisco, established in 1902. By the 1930s, virtually every Japanese American community had its own *nihongakko* (Japanese-language school) operated by a church or Japanese association. Some communities had two or more schools. Occasionally, both Buddhist and Christian churches in a community supported their own Japanese-language schools. Teachers were often church ministers, their wives, or well-educated persons in the community. Occasionally, a dormitory was built in conjunction with the Japanese-language school, as in Fresno, Guadalupe, and Sacramento, where children of busy parents would live at the school. Many of these schools closed with the incarceration of West Coast Japanese American residents during World War II. In many communities, however, a revival of Japanese-language schools occurred during the 1950s and 1960s, when the sansei generation became of school age. Currently, some communities still operate Japanese-language schools, but their numbers are small.



Shonien (left), Nishi Hongwanji Buddhist Church (right), Los Angeles County

Persons originating from the same area in Japan formed *kenjinkai*, which are social organizations designed to support, aid, and acquaint fellow *kenjin* (persons from the same prefecture). Social services in the form of financial aid, informal counseling, and care for the sick or injured were functions of these groups. Communities had one *kenjinkai* if the Japanese American community was primarily composed of people from the same area of Japan. If the community was large, as in Los Angeles, many *kenjinkai* existed, reflecting the different geographic origins of the immigrants. Very few exist today.

Particularly in agricultural areas, cooperatives to grow, ship, and market agricultural products emerged, giving issei farmers greater control over their economic destinies. Some of these cooperatives including Lucky Produce in Sacramento, Naturipe in Watsonville, the California Flower Market in San Francisco, and the City Market in Los Angeles are still operating today.

The Japanese American Citizens League (JACL) emerged as the largest nisei organization. Organized in 1930, with headquarters now in San Francisco, JACL gained prominence as an organization during the World War II internment, when issei leaders were separately detained and the War Relocation Authority refused to allow the immigrant generation leadership positions. With chapters throughout the country, JACL speaks for a certain segment of the Japanese American community.

Nisei also provided leadership in Christian and Buddhist churches. Due to an "integration" move in Christian churches, Japanese Christian Churches have removed the "Japanese" designation, and have adopted names that make it

difficult to identify them as ethnic churches. Many Japanese Americans now attend churches with non-Japanese congregations. Coupled with the fact that many Japanese Americans attend no church at all, it becomes difficult to evaluate religious preference. Of those that do belong to a church, their preference still remains either Christian or Buddhist.

Japanese American community organizations have been in existence since 1877, serving the changing needs of their members. A relatively recent phenomenon is senior citizens' centers, where programs geared to the needs and interests of issei are carried out by second- and third-generation Japanese Americans. Some of these include Kimochikai in San Francisco, the Pioneer Center in Los Angeles, the Nikkei Service Center in Fresno, the Suisun Nisei Club in Suisun City (Solano County), and the Asian Community Center in Sacramento.



Japan Town (left), Morning Star School (right), San Francisco County

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A History of Japanese Americans in California: DISCRIMINATORY PRACTICES

As with most people of color, Japanese Americans have suffered a variety of discriminatory practices, legislation, and restrictions. Perhaps this could have been expected considering the initial conditions under which Japanese were originally enticed to immigrate to the United States — as only a source of labor, with no plans for them to stay and participate actively in the life of the society.

Even as a source of labor, Japanese immigrants were criticized for being too numerous. They were seen as unassimilable and potentially capable of overrunning the state. The Asiatic Exclusion League, formed in May 1905, mounted a campaign to exclude Japanese and Koreans from the United States. Under pressure from the league, the San Francisco Board of Education ruled on October 11, 1906 that all Japanese and Korean students should join the Chinese at the segregated Oriental School that had been established in 1884. There were 93 Japanese students in the 23 San Francisco public schools at that time. Twenty-five of those students had been born in the United States.

To appease those Californians who were agitating for cessation of Japanese immigration without offending the Japanese government, President Theodore Roosevelt negotiated the 1907-08 Gentlemen's Agreement, whereby the Japanese government agreed not to issue passports to laborers immigrating to the United States. However, parents, wives, and children of laborers already in the United States could immigrate, as well as laborers who had already been here.

This agreement nevertheless stimulated the anti-Japanese movement. Rather than cutting off all immigration from Japan, the agreement resulted in a steady stream of Japanese women entering California. Soon thereafter, children were born, resulting in increases in the Japanese population, rather than decreases. Arranged marriage, sometimes with the exchange of photographs, was the accepted mode of contracting marriages in Japanese society. This practice allowed male issei immigrants to marry, and to send for their brides to join them in this country. The effect was to bolster the stereotyped image of Japanese as being sneaky and untrustworthy, even though the provisions of the Gentlemen's Agreement were being scrupulously maintained.

As the Japanese American population steadily increased, through immigration of picture brides and the birth of nisei children, anti-Japanese forces regrouped after World War I. Charges were made that the Japanese

birth rate was three times as high as the general population's. The fact that Japanese females in prime child-bearing years were compared with White women from 15 to 45 years of age was not mentioned. The unassimilability of Japanese was charged. As part of the Immigration Act of 1924, immigration from Japan was completely cut off for 28 years.

Beginning in January 1909 and continuing until after World War II, anti-Japanese bills were introduced into the California legislature every year. The first to become law was the Webb-Hartley Law (known more commonly as the Alien Land Law of 1913), which limited land leases by "aliens ineligible to citizenship" to three years, and barred further land purchases. Amendments to this law in 1919 and 1920 further restricted land leasing agreements. Although the law contains no mention of Asians by name, it is clear that "aliens ineligible to citizenship" included, among others, Japanese, a group without access to U.S. citizenship and the target of anti-Asian groups during this period.

The issue of U.S. citizenship eventually was decided by the 1922 Supreme Court decision of *Takao Ozawa v. United States*, which declared that Japanese were ineligible for U.S. citizenship. "Free white persons" were made eligible for U.S. citizenship by Congress in 1790. "Aliens of African nativity and persons of African descent" were similarly designated by Congress in 1870. Due to some ambiguity about the term "white," some 420 Japanese had been naturalized by 1910, but a ruling by a U.S. attorney general to stop issuing naturalization papers to Japanese ended the practice in 1906. Ozawa had filed his naturalization papers in 1914. In 1922, the U.S. Supreme Court judged that since Ozawa was neither a "free white person" nor an African by birth or descent, he did not have the right of naturalization as a Mongolian.

Influenced by the anti-Japanese movement, an amendment to the State Political Code in 1921 allowed establishment of separate schools for children of Indian, Chinese, Japanese, or Mongolian parentage. These children were not to be integrated into other public schools once separate schools were established. School districts in Sacramento County elected to maintain separate schools in the communities of Florin, Walnut Grove, Isleton, and Courtland. Chinese, Japanese, and Filipino children in these school districts attended segregated schools until World War II. In 1945, a Japanese American family challenged the constitutionality of segregated schools, and the Los Angeles County Superior Court concurred that segregation on the basis of race or ancestry violated the Fourteenth Amendment. The California legislature repealed the 1921 provision in 1947.

The most widely perpetrated discriminatory action toward West Coast Japanese Americans was the internment camp policy of World War II, which was set into motion by the signing of Executive Order 9066 by President Franklin D. Roosevelt. The executive order did not mention Japanese Americans by name, but the designation of military areas and the decision to exclude certain persons from these areas was directed toward Japanese Americans. Thirteen temporary detention camps in California were hastily established to hold Japanese Americans until more permanent camps in remote sections of the country could be constructed.

After Executive Order 9066 was issued, the vast majority of public

proclamations emanating from Lt. General John DeWitt, Commander of the Western Defense Command, were directed toward controlling the movement and freedom of Japanese Americans. Similarly, the civilian exclusion orders, issued by DeWitt, directed Japanese Americans along the West Coast to report for detention at designated times and places.

Incarceration policy was challenged by Gordon Hirabayashi, who violated curfew regulations in the state of Washington; Fred Korematsu of Oakland, who was prosecuted for knowingly remaining in an area forbidden by military orders; Minoru Yasui, who was prosecuted for violation of curfew orders as a test case; and Mitsuye Endo of Sacramento, who claimed unlawful detention. None of the judgments that resulted from these cases dealt directly with the constitutionality of incarcerating more than 120,000 Japanese Americans. But *Ex parte Endo*, issued December 16, 1944, did result in the rescinding of exclusion orders, effective January 2, 1945, which eventually closed the 10 concentration camps in the United States.

During the internment years, several legislative actions affected thousands of Japanese Americans. A California statute of 1943, amended in 1945, prohibited "aliens ineligible to citizenship" from earning their living as commercial fishermen in coastal waters. Torao Takahashi brought suit, and after a tortuous sequence of events, including a U.S. Supreme Court ruling that the statute was unconstitutional, resident alien Japanese fishermen were again allowed to fish the waters off the California coast in 1948.

In 1944, a federal statute amended the Nationality Act of 1940 to permit U.S. citizens to renounce citizenship during wartime. The Department of Justice intended that leaders of disturbances at the Tule Lake Segregation Center renounce their citizenship, therefore making themselves eligible for further detention when the camps were dismantled. Instead, 5,522 renunciations came from Japanese Americans (5,371 were from persons confined at Tule Lake), rather than the several hundred expected from pro-Japan elements. When the concentration camps were closed, many internees regretted renouncing their U.S. citizenship, citing coercion, intimidation, and fears of hostility by the dominant society. Lawsuits to revalidate citizenship continued until 1965, including *Abo v. Clark* (77 F. Supp. 806), which returned U.S. citizenship to 4,315 nisei.

During World War II, while Japanese and Japanese Americans were unable to defend themselves in court, California's Attorney General was allocated additional funds to prosecute violations of the Alien Land Law of 1913. A total of 79 cases were prosecuted, including 59 after the war. The first challenge to the Alien Land Law was *Harada v. State of California*, in which the Superior Court of Riverside County declared in 1918 that Jukichi Harada could purchase property in the name of his children, who were U.S. citizens though still minors. Subsequent court cases in other jurisdictions had differing results, some ruling that minor children could not own property.

Two escheat cases had particular significance in invalidating the Alien Land Law. The case of *Oyama v. State of California* in 1948 determined that non-citizen parents could purchase land as gifts for citizen children. The *Fujii v. State of California* case in 1952 resulted in the Alien Land Law of 1913 being declared unconstitutional. Legal obstacles to land purchases by Asians were thus removed.

To provide partial restitution for losses and damages resulting from the internment, an Evacuation Claims Act was passed by Congress. While losses by Japanese Americans were conservatively estimated to be around \$400,000,000, only 10 percent of this amount was disbursed to former internees. The issue remains alive today in 1981, with the establishment of a Congressional Commission to investigate the historical, legal, economical, and psychological impacts of the forced internment of over 120,000 persons of Japanese ancestry during World War II.

Japanese Americans have also endured informal discriminatory practices. Shopping, dining, and recreational activities at some business establishments were denied to Japanese Americans in previous years. Restrictive covenants in housing affected where they lived. When deceased members of the highly decorated 442nd Combat team were returned to the United States after World War II, some cemeteries refused to allow them gravesites because of their ancestry. In the past, some occupations have been closed to Japanese Americans, yet others such as gardening have been considered particularly suitable for their temperament, skills, and social standing in the society. Outward manifestations of discriminatory practices toward Japanese Americans can be subtle, but are still very much in existence as recent legal cases involving discrimination in employment promotion indicate.



St. Andrews Methodist Church, Kern County [circa 1929]

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History



A History of Japanese Americans in California: INCARCERATION OF JAPANESE AMERICANS DURING WORLD WAR II

Temporary detention camps called Assembly Centers represented an early phase of the mass incarceration of 92,785 Californians of Japanese ancestry during World War II.

Japanese Americans were held at these temporary detention camps for two to seven months until they were transferred to one of the permanent concentration camps. An entire population of loyal and productive Californians was eliminated from the public scene.

The incarceration of Japanese Americans had a profound effect on the military, political, and economic affairs of the state at the time, and the episode remains a major blot on the history of American law. United States citizens and lawful permanent residents were imprisoned without charges, without evidence, without trial, and in violation of every basic constitutional right.

In the years preceding World War II, racist discrimination against Asian Americans was a fact of life on the West Coast. Discrimination in housing, employment, education, public accommodations, and social relations was pervasive. Moreover, the media constantly reinforced negative stereotypes: newspapers, radio, movies, comic strips, and pulp novels inundated the public with lurid tales of Japanese spies and saboteurs. This historical background is indispensable for an understanding of what happened to Japanese Americans during the war years.

Japan had been waging war in Asia since 1937, and United States relations with Japan had steadily worsened. With the expectation of war, the U.S. Government undertook precautionary measures. In October 1941, the State Department ordered a covert investigation of Japanese American communities on the West Coast and Hawaii. The Federal Bureau of Investigation (FBI) and the military intelligence services intensified secret surveillance programs which had been in existence for several years. All of these intelligence reports certified that the Japanese American population as a whole posed no threat to national security.

When global war finally came to the United States on December 7, 1941, the government was well prepared to handle domestic security. Using previously prepared lists, the FBI summarily arrested over 2,000 Japanese nationals during the first few days of the war. No criminal charges were ever filed against these individuals. They were considered suspicious simply because

of their leadership positions in the Japanese American community. Organization officers, Buddhist and Shinto priests, newspaper editors, language and martial arts instructors were all imprisoned at one of 26 internment camps operated by the Justice Department. Dependents were left without a source of livelihood, and the Japanese American community was stripped of its established leadership.

Like the previous immigration campaigns, California politicians and pressure groups lobbied the federal government to remove or lock up all Japanese Americans. Even though Attorney General Francis Biddle and FBI Director J. Edgar Hoover advised against it, President Franklin D. Roosevelt authorized the mass expulsion and incarceration of Japanese Americans by signing Executive Order 9066 on February 19, 1942. The order itself was carefully worded to avoid constitutional challenges. It did not single out a specific group, nor did it say people were to be locked up. But there was a common understanding that Executive Order 9066 was designed primarily for the purpose of removing and imprisoning Japanese Americans. With no public demand for locking up German Americans or Italian Americans, the government chose to forego the theoretical option of incarcerating descendants of the European enemy nations as well. On February 20, Secretary of War Henry L. Stimson designated Lt. General John L. DeWitt, head of the Western Defense Command, to carry out the intent of Executive Order 9066.

The first action under authority of Executive Order 9066 was the expulsion of the entire Japanese American community from Terminal Island (San Pedro Bay, Los Angeles County) on February 25-27. Armed soldiers marched into the old fishing village and ordered every person of Japanese ancestry, including native-born Americans, to leave their homes within 48 hours. The majority of Terminal Island residents were United States citizens, but they were evicted without legal recourse of any kind. The eviction was especially harsh because most of the men had been arrested earlier by the FBI and the move had to be made almost entirely by women and children. The government made no provisions for alternative housing, and some 2,000 Japanese Americans became displaced persons.



Manzanar Camp, Inyo County

On March 2, DeWitt declared the western halves of California, Oregon, and Washington plus the southern half of Arizona as "Military Area #1," and announced his intention to remove every person of Japanese ancestry therefrom. Japanese Americans were urged to "voluntarily" give up their homes and jobs before they were forcibly expelled by the army. A total of 10,312 Japanese Americans hurriedly left the proscribed areas, with 4,310 moving to the eastern side of California, which was then a "free zone."

On March 11, DeWitt created the Wartime Civil Control Administration (WCCA) as a sub-unit of the Western Defense Command and appointed Colonel Karl R. Bendetsen as the military director responsible for implementation of the expulsion and detention program. In the meantime, Congress passed Public Law 77-503 on March 21 which made it a federal offense for a civilian to disobey a military order issued under authority of Executive Order 9066.

On March 24, all Japanese Americans on Bainbridge Island, Washington were ordered to report for imprisonment under "Civilian Exclusion Order #1." Subsequently, "Civilian Exclusion Order #2" issued on March 30 applied to the Long Beach-San Pedro area in California. Eventually, 108 separate "Civilian Exclusion Orders" were issued, each applying to a different locale in Arizona, California, Oregon, and Washington. Japanese Americans were directed to bring only what they could carry in their hands and turn themselves in at a "Civil Control Station" near their homes. Upon reporting, they were registered, numbered, tagged with shipping labels, and placed aboard buses, trains, and trucks under armed guard for transportation to one of the 15 Temporary Detention Camps. From that point on, Japanese Americans became prisoners of their own country. On arrival at the camps, they were forced to submit to body and baggage searches, fingerprinting, and long interrogations about their background.

Japanese Americans were imprisoned on the basis of ancestry alone. There was no evidence they had done anything illegal or were dangerous in any

way. Native-born Americans were locked up without charges or trial and in complete disregard for their constitutional rights.

DeWitt gave the rationale of "military necessity" to protect the West Coast against sabotage in case of invasion, but such a claim was contrary to the actual U.S. Army "estimate of the situation" which concluded that an invasion of the West Coast was extremely unlikely. The claim was also inconsistent with the fact that Japanese Americans in Hawaii were not similarly incarcerated en masse. Hawaii was the site of the Pearl Harbor attack, some 3,000 miles closer to the enemy, and in far greater danger of invasion. There were 159,534 Japanese Americans in Hawaii, comprising 34.2% of the population, but Lt. General Delos Emmons, the military commander in Hawaii, decided that "military necessity" there required the Japanese Americans to remain free and help in the war effort.

The "military necessity" excuse was further contradicted by the fact that babies, children, bedridden old people, blind or paralyzed persons — people incapable of committing acts of sabotage or espionage — were also incarcerated. Even orphans in institutions and children adopted by White families were imprisoned if they had any Japanese ancestry at all.

By March 24, all Japanese Americans were placed on a dusk to-dawn curfew. On March 27, DeWitt abruptly prohibited any further "voluntary" movement of Japanese Americans away from "Military Area #1." Japanese Americans were "frozen" in their homes until arrangements could be made for their incarceration. They were trapped with no option aside from imprisonment. DeWitt methodically issued detention orders almost daily, and an average of 3,750 persons a day were forced out of their homes and locked up in the Temporary Detention Camps.

In a corollary act, the California State Personnel Board summarily fired all State employees of Japanese ancestry on April 2. Blanket dismissal charges were filed against anyone with a Japanese surname. Those who had taken leaves of absence to enter the Temporary Detention Camps were dismissed in absentia, while those who were still free were ordered to promptly vacate their jobs.

On June 2, DeWitt proclaimed the eastern half of California as "Military Area #2" and prohibited Japanese Americans from leaving that area as well until they, too, could be ordered to report for detention. By this action, DeWitt betrayed an earlier promise to spare those who moved to the eastern half of California during the "voluntary" period. Significantly, only the eastern half of California was proscribed: the eastern halves of Oregon and Washington were left alone. This discrepancy was due to the continued political pressure in California to eliminate Japanese Americans from the entire state.

About this time, an important turning point in the Pacific War occurred. The U.S. Navy annihilated the core of the Japanese Navy at the Battle of Midway on June 3-6. From that point on, Japan totally lacked the capability to attack the West Coast. The U.S. government and military knew that any danger of invasion had vanished. However, instead of cancelling the detention program and saving millions in funds, war materiel, and personnel, the government continued to build new concentration camps and lock up

more Japanese Americans.

The detention process progressed from district to district, county to county, over a five month period. By June 6, all Japanese Americans in the western half of the West Coast states had been locked up. By August 7, 1942, the entire process was completed. A total of 92,785 Californians, and an overall total of 120,313 Japanese Americans ended up in government custody.

Horse racetracks, fairgrounds, rodeo grounds, and labor camps were used as sites for the temporary detention camps. The WCCA/Western Defense Command expropriated 13 such locations in California and hurriedly converted them into transient detention facilities. Existing horsestalls and grandstands were used for living quarters, and flimsy tarpaper barracks were built for additional housing. Compounds were surrounded by high barbed-wire fences and guard towers; sentries in towers were armed with machine guns; soldiers with bayonet-tipped rifles patrolled camp perimeters; and searchlights crisscrossed camp interiors at night.



Entrance to Manzanar Camp, Inyo County

Detainees made the following observations:

Estelle Ishigo (Pomona):

The first sight of the barbed wire enclosure with armed soldiers standing guard as our bus slowly turned in through the gate stunned us. . . . Here was a camp of sheds, enclosed within a high barbed wire fence, with guard towers and soldiers with machine guns.

Charles Kikuchi (Tanforan):

I saw a soldier in a tall guardhouse near the barbed wire fence and did not like it because it reminds me of a concentration camp.

Mine Okubo (Tanforan):

We were close to freedom and yet far from it. The San Bruno streetcar line bordered the camp on the east and the main state highway on the south. Streams of cars passed by all day. Guard towers and barbed wire surrounded the entire center. Guards were on duty night and day.

The fence and guards were not there to "protect" the Japanese Americans; the barbed wire tops were turned inward, and the guards had their weapons trained into the camp. DeWitt, himself, explained the purpose of the security measures:

The Assembly Centers in the combat area are generally located in grounds surrounded by fences clearly defining the limits for the evacuees. In such places the perimeter of the camp will be guarded to prevent unauthorized departure of evacuees Should an evacuee attempt to leave camp without permission he will be halted, arrested, and delivered to camp police.

The camp interiors were arranged like prisoner of war camps or overseas military camps, and were completely unsuited for family living. Barracks and horsestalls were divided into blocks and each block had a central mess hall, latrine, showers, wash basins, and laundry tubs. Toilets, showers, and bedrooms were unpartitioned; there was no water or plumbing in the living quarters; and anyone going to the lavatory at night was followed by a searchlight. Eight-person families were placed in 20-x-20-foot rooms, six-person families in 12-x-20-foot rooms, and four-person families in 8-x-20-foot rooms. Smaller families and single persons had to share unpartitioned units with strangers. Each detainee received a straw mattress, an army blanket, and not much else. Privacy was non-existent. Everything had to be done communally. Endless queues formed for eating, washing, and personal needs. Sanitation and food quality were poor. Outbreaks of diarrhea and communicable diseases were common, and the stench in the horsestall areas was overwhelming.

While Japanese Americans were being confined in temporary detention camps, the War Department built 10 large concentration camps — each designed to hold an average of 12,000 prisoners — in the interior desert and swamp regions of the United States. Two of these concentration camps were located in California, while the other eight were in the states of Arizona (two), Arkansas (two), Colorado, Idaho, Utah, and Wyoming.

Beginning on May 26 and continuing through October 30, approximately 500 detainees per day were taken from the temporary detention camps and placed aboard trains under armed guard for transfer to one of the 10 permanent camps. The movement required the use of 171 special trains — at a time when railroads were critically needed to transport military supplies.

Two of the permanent camps were located in California. In Southern California, the **Manzanar War Relocation Center**, located between Independence and Lone Pine in Inyo County originally as a temporary detention center, was the first center, established on March 21, 1942. On March 21-22, 1942, the first large contingent of Japanese Americans was relocated from Los Angeles to the Manzanar Assembly Center. Three months later, however, Manzanar was transferred to the War Relocation Authority (WRA) for use as one of 10 permanent centers. Manzanar's total land area included 6,000 acres in the Owens Valley with a living area of 620 acres. The living area consisted of 36 blocks. Each block contained 16 barracks, a central mess hall, laundry, and bath houses. The barracks were built of wooden planks nailed to studs and covered with tar paper. In some places the green wood warped, resulting in cracks in floors and walls.

Congressman Leland Ford of California, who advocated that "all Japanese, whether citizens or not, be placed in inland concentration camps," observed that "on dusty days, one might just as well be outside as inside" at Manzanar.

Two rock entrance stations, a solitary high school auditorium, and an obelisk cemetery monument are the only extant features of the Manzanar landscape, interspersed with concrete barracks foundations, remains of tea gardens, cemetery grave sites, and mess hall debris. To many Japanese Americans, Manzanar "recreates for them that moment in their lives when all the world was enclosed within this one-mile square." Manzanar housed over 10,000 internees before the camp closed on November 21, 1945.

In Northern California, the **Tule Lake Relocation Camp**, located six miles south of the California-Oregon border, occupied 7,400 acres of land in the dry lake bed of the Klamath Falls Basin, Modoc County. Most of the land was devoted to agricultural activities while approximately 1-1/4 square miles represented the residential area surrounded by barbed wire fence and guard towers.

Within the enclosure were 64 blocks; nine blocks in turn were usually arranged to form a ward. Each block, measuring approximately 500 feet to a side, was repetitively organized around a core of 14 precisely located 20 x 100-foot-long barracks. Each barracks was divided into four to six apartment units. The barracks were designed to accommodate a total of 250 individuals per block. Tule Lake became the largest single camp with a population of over 18,000.

On May 26, 1942, the first evacuees arrived at Tule Lake from the assembly centers at Portland, Oregon, and Puyallup, Washington. Tule Lake began as just one of the 10 camps. By 1943, however, the War Relocation Authority (WRA) and the U.S. Army initiated a registration program requiring all adult evacuees to respond to a loyalty questionnaire to determine leave clearance for service in the U.S. Armed Forces and for resettlement outside of the restricted zones.

In July 1943, Tule Lake was designated as the segregation center for accommodating a diverse population of evacuees who wished to be repatriated to Japan or who replied in the negative to Questions 27 and 28 of the questionnaire. Because of the program of segregation instituted at Tule Lake, its history was marked by disturbances and human tragedies at a level of intensity greater than that experienced in the other centers.

The last internee left Tule Lake on March 20, 1946, the last of the 10 centers to close. Today, a California State Historical Landmark plaque and monument identifies the camp site, where some of the original barracks buildings have been converted into contemporary housing facilities. Farm labor housing, airport terminals and runways, as well as an elementary school now occupy portions of the land that once was the home of 18,000 Japanese Americans.



Tule Lake Camp, Modoc County [circa 1945]

Temporary Detention Camps in California, 1942

<i>Name</i>	<i>Location</i>	<i>County</i>	<i>Previous Use</i>
1. Fresno	Fresno	Fresno	Fairgrounds
2. Arboga	Marysville	Yuba	Labor Camp
3. Merced	Merced	Merced	Fairgrounds
4. Pinedale	Pinedale	Fresno	Labor Camp
5. Pomona	Pomona	Los Angeles	Fairgrounds
6. Walerga	Sacramento	Sacramento	Labor Camp
7. Salinas	Salinas	Monterey	Rodeo Grounds
8. Santa Anita	Arcadia	Los Angeles	Horse Racetrack
9. Stockton	Stockton	San Joaquin	Fairgrounds
10. Tanforan	San Bruno	San Mateo	Horse Racetrack
11. Tulare	Tulare	Tulare	Fairgrounds
12. Turlock	Turlock	Stanislaus	Fairgrounds
13. Manaznar	Owens Valley	Inyo	Aqueduct Land

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1. **Alameda Buddhist Temple**, Alameda County
 2. **Alvarado Japanese Association Building**, Alameda County
 3. **Angel Island Detention Barracks**, Marin County
 4. **Arroyo Grande Japanese School**, San Luis Obispo County
 5. **Asahi Market**, Ventura County
 6. **Bacon Island**, San Joaquin County
 7. **Bakersfield Buddhist Church**, Kern County
 8. **Bakersfield Japanese Methodist Church**, Kern County
 9. **Biggs Rice Experiment Station**, Butte County
 10. **Bowles**, Fresno County
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11. **California Flower Market, Inc.**, San Francisco
 12. **Centerville Japanese Language School**, Alameda County
 13. **City Market**, Los Angeles County
 14. **Colma Japanese Cemetery**, San Mateo County
 15. **Concord Nippongo Gakko**, Contra Costa County
 16. **Courtland Bates Oriental School Site**, Sacramento County
 17. **Delano Nihonmachi**, Kern County
 18. **Durst Ranch Site**, Yuba County
 19. **Enmanji**, Sonoma County
 20. **Euclid Hall**, Alameda County
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21. **Florin Buddhist Church**, Sacramento County
 22. **Florin East Grammar School**, Sacramento County
 23. **Fountain Grove**, Sonoma County
 24. **Fresno Buddhist Church**, Fresno County
 25. **Fresno Nihonmachi**, Fresno County
 26. **Fukui Mortuary**, Los Angeles County
 27. **Gardena Valley Japanese Community Center**, Los Angeles County
 28. **George Shima's Office**, San Joaquin County
 29. **Gilroy Japanese Community Hall**, Santa Clara County
 30. **Gilroy Japanese Language School**, Santa Clara County
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31. **Gospel Society/Fukuin Kai Site**, San Francisco
 32. **Guadalupe Buddhist Church**, Santa Barbara County
 33. **H. Sumida Company**, Fresno County
 34. **Harada House**, Riverside County
 35. **Harbor District Japanese Community Center**, Los Angeles County

36. **Hompa Hongwanji Buddhist Temple**, Los Angeles County
37. **Iseki Labor Camp**, Fresno County
38. **Isleton Oriental School Site**, Sacramento County
39. **Ivanhoe Gakuen**, Tulare County
40. **Iwata Store Site**, Stanislaus County

41. **Japanese American News Building**, San Francisco
42. **Japanese Salvation Army Building**, San Francisco
43. **Japanese Union Church of Los Angeles**, Los Angeles County
44. **K. Shinoda**, Tulare County
45. **Kamikawa Brothers**, Fresno County
46. **Kawasaki Labor Camp, Sierra Vista Ranch**, Tulare County
47. **Kimochi**, San Francisco
48. **Kings Hand Laundry**, Kings County
49. **Kinmon Gakuen**, San Francisco
50. **Kuwabara Hospital**, Santa Clara County

51. **Leslie Salt Company**, Alameda County
52. **Little Tokyo**, Los Angeles County
53. **Manzanar**, Inyo County
54. **Marysville Nihonmachi**, Yuba County
55. **Miyajima Hotel**, San Joaquin County
56. **Monterey Nihonjinkai**, Monterey County
57. **Morioka's Orange Processing Shed**, Tulare County
58. **Morning Star School**, San Francisco
59. **Naturipe**, Santa Cruz County
60. **Nihon Byoin-Hashiba Sanitarium**, Fresno County

61. **Nippon Hospital**, San Joaquin County
62. **Okonogi Hospital Site**, Fresno County
63. **Orange County Civic Center Plaza Japanese Garden**, Orange County
64. **Oxnard Buddhist Church**, Ventura County
65. **Oxnard Japanese Cemetery**, Ventura County
66. **Oyama Property**, San Diego County
67. **Point Lobos Canning Company Site**, Monterey County
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69. **Richmond Japanese Camp**, Contra Costa County
70. **Rockville School House**, Solano County

71. **Sacramento Parkview Presbyterian Church**, Sacramento County
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101. **[White Point](#)**, Los Angeles County
 102. **Yamato Cemetery**, Monterey County
 103. **[Yamato Colony](#)**, Merced County
 104. **Yamato Hall/Tokyo Club Site**, Los Angeles County
 105. **Yamaguchi Labor Camp**, Tulare County
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HISTORIC SITE OVERVIEWS

In several parts of California, entire communities of Japanese emerged. These communities focused on a common economic pursuit, generally agriculture or fishing. Some communities, such as [Bowles](#) and [Yamato Colony](#), did not have the usual businesses or commercial activities of nihonmachi. Community members therefore had to travel to other nihonmachi, or do business with White merchants in nearby towns. These communities have similarities, but each is unique in some respects.

Facilities for Children

Several institutions emerged in the Japanese community expressly to meet the needs of children. By the 1930s, Japanese-language schools could be found in almost any community in California where Japanese lived. Often, they were operated through churches or the Japanese Association. A revival of Japanese language schools occurred during the 1950s and 1960s, and a few survive today. One of these is the [Concord Nippongo Cakko](#) in Contra Costa County.

Facilities providing care for children who were orphaned, or whose parents could not otherwise provide for them, also emerged. One of these was the [Shonien](#) in Los Angeles.

Labor

A need by agricultural interests for laborers in Hawaii and on the American mainland provided the impetus for early Japanese immigration to the United

States. Recruitment and enticement resulted in large numbers of immigrants from Japan in the early part of the 20th century.

Once in the United States, immigrants traveled throughout California, working in various occupations — agriculture, fishing, land reclamation, domestic services, commercial enterprises, railroads, and oil fields. Many of the earliest immigrants proceeded to establish their own businesses, farms, cooperatives, and other enterprises. A large minority of these single men, however, continued to work as laborers, and constituted the backbone of agricultural workers through the mid-1900s, along with Chicanos and Filipinos.

Churches

Churches, both Buddhist and Christian, were the centers of Japanese communities for many years. They provided not only religious services but also social activities, athletic organizations, and Japanese language classes for the community. Churches were established in almost every Japanese community in the state. Two are included as examples. The [Buddhist Church of Bakersfield](#) is the oldest Japanese Buddhist church building constructed by its congregation still used for religious services. The [Union Church](#) of Los Angeles played a particularly significant role for the Japanese community of Southern California.

Health Care

Facilities to provide health care became a priority for Japanese Americans in the first two decades of the twentieth century. Babies were being born, occasional epidemics affected large segments of the community, and the working and living conditions of the times required midwives, doctors, and nurses. In addition, medical practitioners needed structures where they could provide medical service.

Japanese hospitals were constructed in several locations where large numbers of issei settled. The Okonogi Byoin in the City of Fresno was probably the first Japanese hospital in the state. Established by Dr. Bunkuro Okonogi, the Okonogi Byoin was in operation by about 1901, and grew progressively larger and more modern until Dr. Okonogi's death in 1950. The San Jose Kumamoto Kenjinkai organized its community hospital, Kuwabara Hospital, in 1910; the structure is still used by the community today. The Nihon Byoin in Fresno was organized around 1913, and currently houses several businesses. The [Nippon Hospital](#) in Stockton was established in 1919.

Recreation

Little is written about recreational facilities and opportunities for Japanese immigrants. Because of the responsibilities of work, family, and community priorities, relatively small amounts of time were spent in recreational pursuits. Recitals, plays, singing, and special programs were often performed at churches and community centers. Casual recreational activities included pool, baseball, and gambling. The [San Jose Japanese Theater](#) and [White Point](#) were developed specifically as recreational sites for the Japanese community.

Discriminatory Practices

Japanese Americans have suffered discriminatory practices resulting from official legislative actions such as the Alien Land Laws, and from informal regulations such as restrictive housing covenants. The most publicized discriminatory action was internment of approximately 120,000 West Coast Japanese Americans in [concentration camps](#) during World War II.

Alien Land Law

From 1909 onward, the California legislature considered bills designed to control leasing and ownership of land by Asians. These laws were directed toward Japanese, the primary "aliens ineligible for U.S. citizenship" who were buying property at this time. Agricultural interests wanted to maintain them as a labor force. White supremacist and patriotic groups were determined to prevent nonwhite groups from becoming permanent and participating members of California society.

On May 19, 1913, Governor Hiram Johnson signed the Webb-Hartley Law (more popularly known as the Alien Land Law of 1913). It prevented "aliens ineligible to citizenship" from owning or acquiring land, and placed limitations on leasing and collective ownership of property. The laws of 1919 and 1920 more stringently restricted ownership and leasing of land. Although the California Supreme Court declared the Alien Land Law unconstitutional in 1952, the legislation remained on the books until November 4, 1956 when California voters repealed the law.

The following examples are just three of the many cases in which Japanese Americans incurred legal fees and harassment by government officials as a result of being prosecuted for violations of the Alien Land Law.

- [Harada House](#)
- [Oyama Property](#)
- [Sei Fujii Property](#)

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History



A History of Mexican Americans in California: INTRODUCTION

In 1846, the United States invaded and conquered California, then part of the Republic of Mexico. This event, one aspect of the 1846-1848 U.S.-Mexican War, led to U.S. annexation of California through the 1848 Treaty of Guadalupe Hidalgo. Mexican American history in California had begun.

But if the Mexican American era in California was new, the roots of the Chicano¹ experience stretched back some three centuries to 1519 when Spaniards and their Indian allies carried out the conquest of the Aztec Empire in central Mexico and established what they called "New Spain." Exploration and colonization spread from Mexico City in all directions. This eventually included settlements throughout the northern frontier in the areas now occupied by the states of Arizona, New Mexico, Texas, and of course, California.

Hispanic settlement of what is now California began in 1769 when the Presidio and Catholic mission of San Diego were established. By 1823, 20 more missions dotted the California coast from San Diego to Sonoma, along with several military presidios and civilian communities. With few exceptions, the settlers and their descendants stayed close to the coast. There were few extensions into the California interior.

The California economy was based on agriculture and livestock. In contrast to central New Spain, coastal colonists found little mineral wealth. Some became farmers or ranchers, working for themselves on their own land or for other colonists. Government officials, priests, soldiers, and artisans settled in towns, missions, and presidios.

Socially, a combination class-caste system developed, although it lacked the rigidity of that in central New Spain. Most residents belonged to the lower and lower-middle classes, but some colonists arrived with or attained upper-class status, mainly through ranching or the acquisition of land grants. They reflected varied backgrounds — *peninsular* (born in Spain), *criollo* (born in New Spain of pure Spanish ancestry), Indian, Black, *mestizo* (of Spanish and Indian ancestry), *mulato* (of Spanish and African ancestry), and *zambo* (of Indian and African ancestry). Most colonists were of mixed racial backgrounds, and the process of *mestizaje* (racial mixture) continued in California, including mixture with various California Indian civilizations. Many mestizos strove, sometimes successfully, to become identified as pure-blooded Spaniards because racial identity affected socio-economic mobility. Whites generally held major government positions, church offices, and private

lands, while mestizos and Indians were concentrated at lower levels of the social structure. However, many people with mixed blood did succeed in becoming ranch owners and leading Californios, which sometimes brought an accompanying change of ethnic identity.

For the most part, Spanish California developed in relative isolation despite nominal central government control through appointed officials. When Mexico won its independence from Spain in 1821, central government control was even further diminished. In particular, Mexican independence opened the California door to trade with other countries, especially the United States. In the early 1820s, Anglo-Americans² developed an intensive trade with California via sailing ships around Cape Horn. The Old Spanish Trail, established in 1829 to link Los Angeles and Santa Fe, New Mexico, became the first major northern Mexican interprovincial trade route. Moreover, it linked California to the Santa Fe Trail between New Mexico and the United States.

Trade with the United States began the process of economic detachment of California and New Mexico from central Mexico. Ships brought hides and tallow from California in exchange for manufactured goods from both the United States and England. Increased trade led to increased demand for consumer goods, and therefore, greater dependence on the United States as the primary source of supply. Along with a burgeoning economy, California also experienced periodic revolutions, as large landowners vied for political supremacy, and the Mexican government made intermittent, sometimes unpopular, efforts to tighten the reins

One of the most dramatic and significant events of the Mexican period occurred in 1833, when the Mexican government secularized the missions. This meant that vast mission landholdings were taken over by the government, which in turn awarded them as land grants to Californios. Soon huge sprawling ranchos became the basic socio-economic units of the province. While upward mobility remained difficult, some Mexicans succeeded in making the transition into the California elite, particularly with the help of these land grants.

During the 1821-1846 period, Anglo-Americans began to settle in California. Many of these settlers, particularly those who had come by ship, eventually married Mexican women (usually of the local aristocracy), became Mexican citizens, and obtained land grants. In contrast, Anglo overland pioneers who settled in the Sacramento Valley of northern California brought their families, stayed to themselves, and resisted integration into Mexican society. It was this group that ultimately rebelled in 1846 against its Mexican hosts and formed the short-lived secessionist Bear Flag Republic, which disappeared during the U.S. conquest of California.

¹ *Chicano*: a term for Mexican Americans or U.S. residents of Mexican descent. - Ed.

² *Anglo-American*: a term sometimes used to describe non-Hispanic White residents of the U.S. (informally, "Anglo"). - Ed.



Agua Mansa Cemetery, Colton, San Bernardino County

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A History of Mexican Americans in California: THE MEXICAN WAR

In 1846, the U.S.-Mexican War erupted. Tensions between the two countries had been developing for years over the obvious U.S. goal of expanding to the Pacific coast. The United States had made several offers to purchase all or part of northern Mexico, offers that Mexico rejected. In 1842, the United States revealed that it was prepared to use force to take what money could not buy, when the commander of the Pacific squadron invaded and captured Monterey, the capital of California, and returned it with apologies.

On the other side, Mexico's antagonism toward the United States was exacerbated by annexation of Texas, a former Mexican province that had revolted in 1835. The Texas rebels had extracted a battlefield treaty from Mexico recognizing the independence of Texas, but the Mexican government had never ratified it. To Mexico, therefore, U.S. annexation of Texas was grand theft and unconscionable aggression.

The precipitating incident of the war came in April 1846, when small units of Mexican and U.S. soldiers clashed in disputed territory between the Nueces River (the Texas boundary recognized by Mexico) and the Rio Grande (the boundary claimed by Texas). The incident provided a pretext for an annexation decision already made by U.S. President James K. Polk, who ordered invasion by U.S. troops. Fighting in northeastern Mexico was followed by the landing of U.S. forces at Veracruz and an advance overland from there to Mexico City. Simultaneously, other U.S. forces occupied the province of New Mexico and then marched to California, most of which had already come under U.S. control as the result of a naval invasion and the Bear Flag Revolt.

The initial U.S. occupation of California occurred without bloodshed, but Mexican armed reaction ultimately broke out in both New Mexico and California. Mexican patriots, mainly citizen volunteers, were victorious in 1846 in battles at Los Angeles, San Pasqual, Chino Rancho, and elsewhere. But eventually they had to submit to the trained and better-armed U.S. forces. By early 1847, the United States had established control over California and the rest of northern Mexico, and proceeded to absorb this territory. The 1848 Treaty of Guadalupe Hidalgo between the United States and Mexico confirmed the land transfer.

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A History of Mexican Americans in California: POST-CONQUEST CALIFORNIA

No sooner had the treaty been signed than the first major post-war influx of Anglos began, fueled by the discovery of gold in 1848. The 10,000 Californios (pre-conquest Mexican Californians) soon found the territory swamped by Anglo-American migrants and foreign immigrants. The latter included Chileans, Peruvians, Basques, and Mexicans, particularly miners from the Mexican province of Sonora. However, despite this Latino immigration, the Spanish-speaking population of California fell to 15 percent by 1850, and to four percent by 1870.

Northern California received the major thrust of the Anglo gold rush migration, while southern California remained heavily Mexican. This ethnic contrast was one factor in the debate over the possibility of dividing California into two states, as happened in the case of New Mexico and Arizona.

However, the coming of the transcontinental railroad to southern California in the 1870s spurred a land boom and the state's second major population explosion. By the 1880s, Anglo settlers were also numerically dominant in the southern part of the state.

The presence of a Mexican majority in 1848 contributed to a promising start for good ethnic relations in California. Californios participated widely in the early post-conquest government, and provided eight of the 48 delegates to the 1849 state constitutional convention. There they won such transitory victories as a provision that all state laws and regulations be translated into Spanish. In southern California, where Californios remained a majority in some places until the 1880s, they continued to be elected to local and county positions, and a handful held state offices or seats in the legislature.

However, the rapid establishment of a heavy statewide Anglo majority quickly rendered Mexican Americans politically powerless at the state level. As a result, they could not prevent enactment of inequitable and sometimes discriminatory laws. For example, the legislature placed the heaviest tax burden on land, an abrupt and decimating shift from the Mexican system of taxing production rather than land. Although this tax also hurt Anglo landowners, it seriously undermined the Californio economic position, based primarily on ranching. The Foreign Miners' Tax of 1850, a \$20 monthly fee for the right to mine, was applied not only to foreign immigrants but also to California-born Mexicans, who had automatically become U.S. citizens under the terms of the Treaty of Guadalupe Hidalgo. The state anti-vagrancy act of 1855 was so obviously anti-Mexican that it became known popularly as the Greaser Law. Possibly the most blatantly anti-Mexican law was the 1855 act negating the constitutional requirement that laws be translated into Spanish.

Finally, there were growing vigilantism and squatter violence against California landowners.

Land had been the basis of the California socio-economic system. The loss of land after the U.S. conquest undermined that system, in spite of the theoretical protections provided by the Treaty of Guadalupe Hidalgo. Holders of Spanish and Mexican land grants, most of whom were Mexican Americans, had to seek legal confirmation of their titles. In effect, the federal government placed the burden of proof on the landowners instead of automatically accepting all titles and then handling challenges on an individual basis.

Already suffering from heavy taxes and lacking capital, Chicano landowners had to go through the slow, expensive process of legally confirming their claims, and often were forced to borrow money at high interest rates to cover the costs of the legal struggle. Moreover, they had to argue their cases before U.S. judges and land commissioners unfamiliar with Hispanic legal principles and the land tenure system on which land grants were based. Even when they did win confirmation of their grants, Mexican Americans often found themselves personally destitute, or had to sacrifice their land to pay their legal expenses.

To adjudicate landholdings in California, Congress passed the Land Act of 1851, establishing a Board of Land Commissioners to review claims. If appealed, cases moved on to the U.S. district court, and even the Supreme Court. Of the 813 claims, 549 were appealed (417 by government attorneys), some as many as six times. The board went out of business in 1856, but multiple appeals caused land cases to drag on for an average of 17 years.

Loss of land contributed heavily to relegation of Mexican Americans to the lower echelons of the California socio-economic system. The loss eroded their economic base, undermined their political power, and displaced ranchworkers. Some Chicanos managed to find work in traditional occupations, such as vaquero or sheepshearer, but often only on a part-time basis. Most displaced Chicanos became laborers, poorly paid and often migratory, in expanding large-scale commercial agriculture. Others moved to cities, where their pastoral and agricultural skills were of little use. Many found employment in railroads, construction, and food processing.

Increasingly incorporated into the labor market in the nineteenth century as unskilled or semi-skilled manual laborers, Chicanos experienced job displacement, and in some areas, actual downward occupational mobility. Anglo hostility and low levels of education limited their access to jobs in the rapidly expanding white-collar sector, and Chicanos also encountered obstacles to upward mobility even in occupations in which they had considerable skill and experience. In Los Angeles, for example, Chicanos disappeared completely from the ranks of hatmakers, masons, and tailors. Despite long pastoral experience, Chicanos found employment on ranches only as ranchhands, while Anglos held most supervisory positions.

Another aspect of the nineteenth century economic shift was the entry of Mexican American women into the labor market. As Mexican American men found themselves more occupationally disadvantaged, women became increasingly employed as domestics, laundresses, farm laborers, and cannery and packinghouse workers. A rise in the proportion of female-headed

households reflected these socio-economic stresses.

Concomitant with the Chicano economic decline was emergence of residential and social segregation. Chicano barrios and colonias consisted of various types. Some traditional Mexican towns became transformed into barrios as Anglos immigrated and established their own segregated neighborhoods, or as newly established Anglo cities expanded until they enveloped historic Mexican communities. Displaced Chicanos and immigrating Mexicans often established new barrios and colonias.

Barrios and colonias developed and survived through a combination of force and choice. In Anglo areas, anti-Mexican segregation, often embedded in restrictive covenants on real estate, slammed the residential door on the vast majority of Mexican Americans, the major exceptions being Chicanos with wealth, social status, light skins, and presumed Spanish identity. On the other hand, most Chicanos and new Mexican immigrants probably preferred living among people who shared their heritage, culture, and language. The little intermarriage that took place almost always involved Anglo men and daughters from wealthy "Spanish" families — events that often accompanied business partnerships or political alliances.

In Chicano areas, traditional extended family and community social life flourished. There were bullfights, rodeos, horse races, and various fiestas, including the celebration of Mexican Independence Day (September 16) and Cinco de Mayo (May 5 — the 1862 Mexican victory over the French at Puebla). The Catholic Church often provided a focus for social as well as religious life. Mexican American political, cultural, patriotic, and mutual aid organizations began to develop, but remained generally local in focus. Chicano newspapers strengthened community cohesion and spoke out against injustices, but they were undercapitalized, and were forced to engage in a constant, ultimately losing struggle for survival.

Faced with a pervasive pattern of economic dislocation, declining political influence, violence, and discrimination, Chicanos fought back.

Usually, they maneuvered within the system — through the courts, political channels, and newspapers — but at times they resorted to force to defend their rights. Some Chicanos, such as Tiburcio Vasquez, turned to banditry for survival and as a means of expressing grievances and frustrations with Anglo treatment. Nonetheless, by the end of the nineteenth century, Chicanos had declined from an influential majority to a relatively powerless minority.



Leo Carillo Ranch, San Diego County

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A History of Mexican Americans in California: REVOLUTION TO DEPRESSION: 1900-1940

The first three decades of the twentieth century saw rapid growth in the size of the California Chicano population. However, the stage for this growth had been set by years of social and economic changes in Mexico and the United States.

Development of mining and industry in northern Mexico, as well as building of north-south railroad lines, attracted large numbers of Mexicans to the northern part of the country in the late nineteenth century. There they learned new industrial, mining, and railroad skills that would be useful later in the United States. The railroad also provided a quicker and easier means of travel to the north. At the same time, economic pressures were mounting. Many small landowners were losing their holdings to expanding haciendas, while farm workers were increasingly and systematically trapped into peonage by accumulating debts.

Finally in 1910, political opponents of President Porfirio Diaz revolted. He was quickly overthrown, but replacement of his government did not end the Mexican Revolution which spread throughout the country and took on deep social and economic, rather than merely political ramifications. The resulting chaos drove thousands of Mexicans north. Beyond physical proximity, the United States offered jobs — in industry, in mines, on railroads, and in agriculture — and all at wage levels far higher than those in Mexico. World War I further increased the demand for Mexican labor.

In the 1920s, the pace of emigration increased, spurred in part by the short but violent Cristero Revolution (1926-1929), while the U.S. economy continued to expand and attract Mexican labor. Nearly one-half million Mexicans entered the United States on permanent visas during the 1920s, some 11 percent of total U.S. immigration during that decade. Thousands more entered informally, before passage of restrictive regulations. Even after establishment of more stringent immigration rules and procedures, thousands continued to cross without legal sanction. Many of them were ignorant of the required legal processes; others sought to avoid the head tax, the expense of a visa, and bureaucratic delays at the border. Coyotes — as the professional labor contractors and border-crossing experts were known — often received commissions from U.S. businesses. They began the industry of smuggling people and forging documents that continues to the present.

Most Mexican immigrants settled in the Southwest. By 1930, more than 30 percent of Mexican-born U.S. residents lived in California. They entered nearly every occupation classified as unskilled or semi-skilled. Chicanos

became the bulwark of southwestern agriculture. By 1930, manufacturing, transportation, communications, and domestic and personal service had become the other major sectors of Chicano employment. Chicanos made up 75 percent of the work force of the six major western railroads. They also held blue-collar positions in construction, food processing, textiles, automobile industries, steel production, and utilities. In California during the 1920s, Chicanos constituted up to two-thirds of the work force in many industries.

A small Chicano middle class developed, often oriented toward serving the Chicano population. The growth of barrios and colonias fostered expansion of small businesses such as grocery and dry-goods stores, restaurants, barber shops, and tailor shops. Small construction firms emerged. Chicanos entered the teaching profession, usually working in private Chicano schools or in segregated public schools.

Many factors kept Chicanos in a marginal status. The geographical isolation of employment sites, particularly in railroading, agriculture, and agriculturally related industry, often reduced opportunities for Chicanos to gain familiarity with U.S. society through personal contact. Chicanos also encountered various forms of segregation. These included maintenance of separate Anglo and Mexican public schools, restrictive covenants on residential property, segregated restaurants, separate "white" and "colored" sections in theaters, and special "colored" days in segregated swimming pools. Numerous government agencies, religious groups, and private social service organizations, however, made special efforts to assist in the acculturation of Chicanos by providing instruction in the English language, U.S. culture, and job skills.

The dramatic increase in Mexican immigration affected Chicano residential patterns. Thousands settled in older barrios, causing over crowding and generating construction of cheap housing to meet the sudden demand. In some barrios, Mexican immigrants attained such numerical dominance that U.S.-born Chicanos became a minority within a minority. Immigrants sometimes formed new barrios adjacent to historical Chicano areas or new colonias in agricultural or railroad labor camps.

The growth in the size and number of Chicano communities fostered the growth of community activities. In the early twentieth century, there was a major increase in Chicano organizations, particularly *mutualistas* (mutual aid societies). Some adopted descriptive or symbolic names, such as Club Reciproco (Reciprocal Club) or Sociedad Progresista Mexicana (Mexican Progressive Society). Others selected names of Mexican heroes, such as Sociedad Mutualista Miguel Hidalgo (the father of Mexican independence), Sociedad Mutualista Benito Juarez (the famous Mexican Liberal president), or Sociedad Ignacio Zaragosa (the victorious Texas-born general at the Battle of Puebla, 1862).



Casa de Tableta/Buelna's Roadhouse, San Mateo County

Membership varied. Some organizations were exclusively male or female; others had mixed membership. Most developed as representative of the working class, but others were essentially middle or upper-class, or reflected a cross-section of wealth and occupations. Although each mutualista had its special goals, they all provided a focus for social life with such activities as meetings, family gatherings, lectures, discussions, cultural presentations, and commemoration of both U.S. and Mexican holidays.

Most provided services, such as assistance to families in need, emergency loans, legal services, mediation of disputes, and medical, life, and burial insurance. Some organized libraries or operated *escuelitas* (little schools), providing training in Mexican culture, Spanish, and basic school subjects to supplement the inferior education many Chicanos felt their children received in the public schools. Mutualistas helped immigrants adapt to life in the United States. Many mutualistas became involved in civil rights issues, such as the legal defense of Chicanos and the struggle against residential, school, or public segregation and other forms of discrimination. Some engaged in political activism, including support of candidates for public office. At times, mutualistas provided support for Chicanos on strike. Coalitions of Chicano organizations were formed, such as La Liga Protectora Latina (Latin Protective League) and El Confederacion de Sociedades Mexicanas (Confederation of Mexican Societies) in Los Angeles.

In addition to mutualistas, a variety of other cultural, political, service, and social organizations were developed in the early twentieth century, as communities grew or were formed. Possibly the most turbulent Chicano organizational activity of that era was in the labor sphere, where Mexicans played ironically conflicting roles. Because of depressed wages and unemployment in Mexico, Mexican workers could earn more in the United States, even by accepting jobs at pay levels that Anglos refused. Employers thus used Mexican labor to hold down pay scales, and often reached across the border to recruit Mexicans as strikebreakers. Because of the antipathy Mexicans generated in these roles, and also because of the biases of union leaders, local chapters of U.S. labor unions often refused to accept Chicanos as members, or required them to establish segregated locals.

There were Mexican strikers as well as strikebreakers, though. Chicanos were

in the forefront of agricultural strikes. In 1903, more than 1,000 Mexican and Japanese sugar-beet workers carried out a successful strike near Ventura. In 1913, Mexican workers participated in a strike against degrading conditions on the Durst hop ranch, near Wheatland, Yuba County. Although the intervention of National Guard troops and the arrest of some 100 migrant workers broke the back of the strike, the Wheatland events contributed to establishment of the California Commission on Immigration and Housing, and recognition of the oppressive living and working conditions of agricultural laborers.

Throughout the late 1920s and early 1930s, Mexicans heeded or participated in a number of agricultural strikes throughout California. Mexicans struck Imperial Valley melon fields in 1928 and 1930. In 1933, El Monte strawberry fields, San Joaquin Valley cotton fields and fruit orchards, Hayward pea fields, and many other locales were affected. Strikes spread to Redlands citrus groves in 1936, and to Ventura County lemon groves in 1941. Mexicans also challenged the related food-processing industry through strikes by lettuce packers in Salinas in 1936, cannery workers in Stockton in 1937, and others.

Chicanos created a number of their own unions. El Confederacion de Uniones Obreras Mexicanas (CUOM, Confederation of Mexican Labor Unions) was formed in 1928. Among its goals were equal pay for Mexicans and Anglos doing the same job, termination of job discrimination against Chicano workers, and limitation on the immigration of Mexican workers into the United States. At its height, CUOM had about 20 locals and 3,000 workers.

In the early 1930s, Chicanos established some 40 agricultural unions in California. The largest, El Confederacion de Uniones de Campesinos y Obreros Mexicanos (CUCOM, Confederation of Mexican Farm Workers' and Laborers' Unions), created in 1933, ultimately included 50 locals and 5,000 members. Most of these unions later joined the American Federation of Labor or the Congress of Industrial Organizations.

The Great Depression brought a dramatic population reversal among Mexican Americans. Tabulated immigration to the United States from Mexico fell from nearly 500,000 during the 1920s to only 32,700 during the 1930s. At the same time, official figures indicate that some half-million persons of Mexican descent moved to Mexico.

The Depression displaced millions of American workers, and the drastic midwestern drought dispossessed thousands more, many of whom headed for California. As a result, California Chicanos not only lost their jobs in the cities along with other Americans, but also found themselves displaced from agricultural jobs by Dust Bowl migrants. Whereas before the Depression Anglos had composed less than 20 percent of California migratory agricultural laborers, by 1936, they had increased to more than 85 percent.

The shrinking job market caused Anglo attitudes toward Mexicans in the United States to change. Previously welcomed as important contributors to an expanding agriculture and industry, Mexicans now were seen as "surplus labor." No longer considered the backbone of California agriculture and invaluable contributors to other employment sectors, Mexicans instead were viewed as an economic liability, and had become objects of resentment as recipients of scarce public relief funds.

The government's solution was the Repatriation Program. In cooperation with the Mexican government, which had regretted the loss of so many able workers, U.S. federal, state, county, and local officials applied pressure on Mexicans to "voluntarily" return to Mexico. At times, this procedure resulted in outright deportation. Mexican aliens who lacked documents of legal residency, including many who had entered the United States in good faith during an earlier period when immigration from Mexico was a more informal process, were particularly vulnerable. Among the victims of the process were naturalized and U.S.-born husbands, wives, and children of Mexican repatriates, who had to choose between remaining in the United States or maintaining family unity by moving to Mexico.

The Depression era also sharpened long-existent Chicano distrust of government, particularly its agents of law enforcement. During the Depression, the use of violence to break strikes and disrupt union activities was widespread and added to Chicano antagonism toward law-enforcement officials. The Repatriation Program further increased Chicano distrust of government.



La Union Espanola de Vacaville, Solano County

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A History of Mexican Americans in California: WORLD WAR II AND ITS AFTERMATH

World War II marked another sharp reversal in the course of Chicano history, renewing hope where the Depression had brought despair. The Depression had left in its wake a population decline, devastated communities, and shattered dreams; the war brought population growth, resurgent communities, and rising expectations.

World War II caused a tremendous labor shortage. When the military forces called for recruits, Mexican Americans responded in great number and went on to serve with distinction. Some 350,000 Chicanos served in the armed services and won 17 medals of honor. The war also brought industrial expansion, further aggravating the labor shortage caused by growth of the armed forces. Chicanos thus managed to gain entry to jobs and industries that had been virtually closed to them in the past. These new opportunities liberated many Chicanos from dependence on such traditional occupations as agriculture.

The turnaround from the labor surplus of the 1930s to the labor shortage of the 1940s had a special impact on agriculture and transportation. For help, the United States turned to Mexico, and in 1942 the two nations formulated the Bracero Program. From then until 1964, Mexican braceros were a regular part of the U.S. labor scene, reaching a peak of 450,000 workers in 1959. Most engaged in agriculture; they formed 26 percent of the nation's seasonal agricultural labor force in 1960.

Along with opportunities, World War II also brought increased tensions between Chicanos and law-enforcement agencies. Two events in Los Angeles brought this issue into focus. In the Sleepy Lagoon case of 1942-1943, 17 Chicano youths were convicted of charges ranging from assault to first-degree murder for the death of a Mexican American boy discovered on the outskirts of the city. Throughout the trial, the judge openly displayed bias against Chicanos, and allowed the prosecution to bring in racial factors. Further, the defendants were not permitted haircuts or changes of clothing. In 1944, the Sleepy Lagoon Defense Committee obtained a reversal of the convictions from the California District Court of Appeals, but the damage had been done. Los Angeles newspapers sensationalized the case and helped create an anti-Mexican atmosphere. Police harassed Chicano youth clubs, and repeatedly rounded up Chicano youth "under suspicion."

In the aftermath of the convictions and the press campaign, conflict broke out between U.S. servicemen in the area and young Mexican Americans who often dressed in the zoot suits popular during the wartime era. Soldiers and sailors

declared open season on Chicanos, attacking them on the streets and even dragging them out of theaters and public vehicles. Instead of intervening to stop the attackers, military and local police moved in afterward and arrested the Chicano victims. Spurred on by sensational, anti-Mexican press coverage of the "zoot-suit riots," these assaults spread throughout Southern California and even into midwestern cities. A citizens' investigating committee appointed by the governor later reported that racial prejudice, discriminatory police practices, and inflammatory press coverage were among the principal causes of the riots. The Sleepy Lagoon case and the zoot-suit affair provided the basis for Luis Valdez's *Zoot Suit*, which in 1979 became the first Chicano play to appear on Broadway.

Despite such events as these, the World War II era proved to be generally positive for Mexican Americans and is often viewed as a watershed in their history. Progress continued after the war. The G.I. Bill of Rights gave all veterans such benefits as educational subsidies and loans for business and housing. Moreover, returning Chicano servicemen refused to accept the discriminatory practices that had been the Chicanos' lot. The G.I. generation furnished much of the leadership for post-war Mexican American civil rights and political activism.

Veterans were instrumental in the founding and growth of a variety of Chicano organizations. Among the heavily political organizations, the Unity Leagues and the Community Service Organization registered voters in California and supported Chicano candidates. These groups also engaged in such diverse activities as language and citizenship education, court challenges against school segregation, and assistance in obtaining government services. Even more overtly political has been the Mexican American Political Association (MAPA).

Chicano progress since World War II is reflected in occupational patterns. Changes in Mexican American job concentrations reflect to some extent changes in the state economy. Since 1940, California has experienced a manufacturing boom and rapid growth in such areas as government, product distribution, consumer-oriented activities, and professional services. Percentages of Mexican Americans in agriculture and unskilled labor positions have declined, while percentages in professional, technical, managerial, clerical, skilled craft, and semi-skilled occupations have risen.

The post-Depression era brought socio-economic gains for Mexican Americans, but not equality. Although percentages of Mexican Americans in professional, technical, managerial, and clerical positions have increased, they still fall far short of parity according to their population numbers. Moreover, in nearly every major occupational group, Chicanos tend to hold inferior jobs, and Chicano earnings in the same job classifications tend to be lower than those of Anglos.

Inequitable economic conditions are paralleled by comparatively low Chicano educational attainment and severe underrepresentation among elected officials. The latter has resulted partially because thousands of Mexican immigrants have lived in California for decades without obtaining U.S. citizenship. With Mexico so close, many come with plans ultimately to "return home," although these dreams often go unfulfilled. Some Mexican immigrants, although harboring no desire to live in Mexico, have refused to surrender their Mexican

citizenship. In comparison to immigrants from other parts of the world, Mexicans and other Latinos have been more reluctant to become naturalized citizens.

Other factors have also contributed to Chicano electoral underrepresentation. In 1977, for example, a California legislative committee on elections partially attributed Chicanos' limited representation on most city councils in cities with significant Chicano populations to the predominant use of citywide at-large elections instead of district elections. There were no Chicano council members at all in 42 such cities in California. The committee argued that local at-large elections prevent "minority voters from exercising their potential political weight," since "their votes disappear in a sea of majority group votes." On the other hand, some contend that at-large elections make it less likely that candidates will write off minority votes as irrelevant, as can happen in ward-based contests.

When it comes to military service, combat decorations, and wartime casualties, however, Chicanos have been overrepresented in terms of population. Because of their lower educational attainment and restricted employment opportunities, Chicanos have traditionally viewed military service as a viable economic option. And since they were underrepresented in higher education, Mexican Americans did not benefit from student deferments as frequently as Anglos.

Finally, the 1970 U.S. Commission on Civil Rights report, *Mexican-Americans and the Administration of justice in the Southwest*, documented unequal treatment of Chicanos by law-enforcement agencies and the judicial system. Among widespread abuses cited in this and other studies are the lack of bilingual translators in court proceedings; underrepresentation of Chicanos on grand juries, as judges, and as law-enforcement officers; unequal assignment of punishment and probation to convicted Chicanos; excessive patrolling of Chicano barrios; anti-Mexican prejudice among police and judicial officials; and even wrongful use of law-enforcement agencies. In the search for undocumented Mexicans, the U.S. Border Patrol has exacerbated antipathy among Mexican Americans by periodic raids on houses, apartments, restaurants, and bars in Chicano communities and predominantly Chicano places of employment.



Quinto Sol Publication's first office location, Alameda County

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A History of Mexican Americans in California: THE CHICANO MOVEMENT

This negative side of the post-World War II Mexican American experience provided background and impetus for the Chicano movement

Rising from the turbulent 1960s and drawing on the century-long foundation of Mexican American experience, the Chicano movement has become a dynamic force for societal change. The movement is not a monolith, but is rather an amalgam of individuals and organizations who share a sense of pride in *Mexicanidad*, a dedication to enhancement of Chicano culture, mutual identification, a desire to improve the Chicano socio-economic position, and a commitment to making constructive changes in U.S. society.

A major focus of contemporary Chicanos has been politics. Political goals have included increasing the number of Chicano candidates, convincing non-Chicano candidates to commit themselves to the needs of the Mexican American community, conducting broad-scale voter registration and community organization drives, working for appointment of more Chicanos in government, and supporting passage of constructive legislation. Some Chicanos have chosen to work through the two major political parties or through theoretically nonpartisan organizations, such as the Mexican-American Political Association. Others have channeled their political efforts through El Partido de la Raza Unida (PRU, United People's Party), which was founded in south Texas by Jose Angel Gutierrez. While Chicanos have not demonstrated political influence commensurate with their growing numbers, the increase in Chicano elected and appointed officials reflects growing Chicano political presence.

Chicanos have given considerable contemporary attention to economic change. Goals and strategies have varied — upgrading occupations, creating more private businesses (Brown Capitalism), and forming cooperative community development enterprises are examples. The most visible and publicly dramatic aspect of the Chicano economic struggle has been the United Farm Workers' movement led by Cesar Chavez.



Cesar Chavez family home in Delano, Kern County

Education has long been a primary target of Mexican American reformers. Well before the U.S. Supreme Court outlawed school desegregation in the *Brown v. Board of Education* decision of 1954, California Chicanos had challenged educational discrimination. In 1946, *Mendez v. Westminster School District* resulted in banning separate Chicano schools in California. Yet the U.S. Civil Rights Commission pointed out that in the late 1960s, one-quarter of Chicanos in California attended schools with more than 50 percent Chicanos.

The Chicano movement has striven for a variety of educational goals, including reduction of school drop-out rates, improvement of educational attainment, development of bilingual-bicultural programs, expansion of higher education fellowships and support services, creation of courses and programs in Chicano studies, and an increase in the number of Chicano teachers and administrators. The traditional campaign for desegregation and the newer drive for bilingual-bicultural education, of course, involve objectives that are not always easy to reconcile. In a seeming turnabout after years of struggling for desegregation, some contemporary Mexican American educational leaders recently have taken strong stands against cross-town busing in such communities as Los Angeles, fearing that dispersion of Chicano students will prevent them from participating in hard-won bilingual educational programs.

At times, Chicanos have adopted the traditional tactic of working quietly through existing channels, or attempted to elect Chicano or pro-Chicano school board members. At other times, out of frustration, they have turned to walkouts, sit-ins, and direct confrontations with school boards and administrations. Students have provided much of the effort toward educational reform through such organizations as the United Mexican-American Students (UMAS) and Movimiento Estudiantil Chicano de Aztlan (MEChA, Chicano Student Movement of the Southwest). The Chicano movement has also spurred establishment of Chicano alternative schools and institutions of higher education, such as Universidad de la Tierra in Goshen, Universidad de Campesinos Libres in Fresno, and Deganawidah-Quetzalcoatl University in Davis, Yolo County, the first Chicano/American Indian university.

Among other institutions affected by the Chicano movement has been the Catholic Church. Although many individual Catholic priests have historically made non-religious contributions to Mexican Americans, the Church as an institution tended to avoid involvement in Chicano societal issues. During the

Repatriation Program, for example, the Church generally remained silent, and did little on behalf of affected Mexicans. Although some Catholic priests and Protestant clergymen have taken their place alongside Cesar Chavez and his followers, priests serving in strike areas have often withheld support for the strikers so as not to alienate growers. The Chicano movement generated such organizations as *Catolicos por la Raza* (Catholics for the Chicano People), which challenged the Church for pouring its money into opulent structures while neglecting to invest in social services to improve conditions for the Chicano poor. Some critics addressed the Church's failure to recruit and promote Chicano priests.

The Chicano movement has also generated a Chicano cultural renaissance and has contributed to a broader Hispanic cultural renaissance in the United States. Art, music, literature, theater, and other forms of expression have flourished. Spanish-language and bilingual media, including television and radio stations, newspapers, magazines, and motion pictures, have expanded in number and impact.

Particularly in the twentieth century, Chicanos have worked in such fields of art as painting, drawing, sculpture, and lithography, and in recent years, have developed a full-scale Chicano art movement. Possibly the two most distinctive vehicles of contemporary Chicano art are muralism and graffiti.

Muralism harks back to the tradition of the great Mexican muralists of the post-Revolution era. Mural themes run from dramatizations of the Mexican Revolution to depictions of the Chicano experience too abstract expressionism. Things form of visual expression is a true people's art, oriented toward the many of the community rather than the few in the art gallery. It can be seen on outside walls of stores, schools, churches, hospitals, and government buildings, in public parks, and even on freeway support pillars, often blended imaginatively with architectural elements. Some barrio gangs have become involved in mural painting, at times using murals as boundary lines between their respective turfs.

The pop-art companion to mural art as an omnipresent symbol of barrio expression is Chicano graffiti. Unlike crude or clever sayings and rhymes written on public walls, Chicano graffiti consists of purposefully conceived sets of symbols or symbolic words, notable in their careful, angular lettering. Barrio gangs generally have developed their own special symbols — *placas* — too denote their territory or their presence on the turf of other groups. Some Chicano muralists have integrated graffiti into their work, at times incorporating existing graffiti by painting around the symbols.



*Pan American Unity Mural by Diego Rivera, San Francisco College,
San Francisco County*

Along with the contemporary movement in the visual arts among Chicanos has come a literary movement. Novels, poetry, short stories, essays, and plays have flowed from the pens of contemporary Chicano writers. Two special characteristics are common to many of these writings. First, they often emphasize Mexican American culture and experience, especially the themes of Anglo prejudice, discrimination, and exploitation. Second, they are often bilingual — usually written primarily in English with a smattering of Spanish words and phrases, though some works, particularly poetry, are entirely in Spanish.

One distinctive aspect of current Chicano expression is the *teatro* (theater). Most famous is El Teatro Campesino (Farm Workers' Theater), founded in 1965 by Luis Valdez as a component of Cesar Chavez's United Farm Workers' movement, but now an independent organization. The teatro also emphasizes themes of Anglo discrimination, Chicano resistance, and Mexican heritage. Productions blend English and Spanish, and often include music. Some presentations are a series of relatively brief *actos*, although the teatro also offers full-length plays. Using an epic theater style in which actors interact directly with the audience and demythologize theater, El Teatro Campesino has attained broad popularity, and has inspired creation of other teatros in barrios and universities throughout the country.

The Chicano teatro movement has included both ephemeral groups (some university teatros disappeared after graduation of their founders and early leaders) and some that have managed to survive despite constant financial pressures. A recent artistic trend has been away from the *teatro popular* toward a more professional theater, and greater use of English (partially owing to increased professional training, the growth of U.S.-born Chicano audiences, and the attempt to attract non-Chicano audiences). In 1978, *Zoot Suit* by Luis Valdez premiered, and enjoyed a long run in Los Angeles. The following year, it became the first Chicano play to appear on Broadway.

California has also been the scene of a boom in Chicano publications as a whole, including newspapers, magazines, and scholarly journals. Chicano newspapers have existed in California since the 1850s. However, most have had limited circulation and even more limited longevity, primarily for two reasons. First, the Chicano population remained relatively small until the early twentieth century, and the reading public was rendered even smaller by limited

literacy. Second, such papers were plagued by undercapitalization and limited local advertising. That they achieved even a limited success, particularly during the nineteenth century, is a tribute to the determination of Chicano journalists. This determination paid off in the twentieth century when some Chicano newspapers, such as *La Opinion* (1926-) of Los Angeles, became permanent. The impetus of the Chicano movement in the 1960s and 1970s brought a rapid expansion of the Chicano press, but the problems of undercapitalization and of educating large institutional advertisers to the potential of the Mexican American market remain.

Possibly the newest surge of Chicano expression has come in the field of motion pictures. Chicano filmmakers have expanded from documentaries to feature films, and are sometimes helped by Mexico City studios. Los Angeles, quite naturally, has been the most active movie-making area, with several independent Chicano production companies located there.



Chicano Park/Logan Heights, San Diego County

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A History of Mexican Americans in California: **THE FUTURE**

Unquestionably, Chicanos and other Hispanics will play increasingly important roles in California's future, if for no other reason than numbers alone. Since World War II, Mexican immigration has remained at a constantly significant level. While the Bracero Program and the entry of countless numbers of undocumented workers have received the most scholarly and journalistic attention, there has been a parallel increase in immigration of Mexicans with permanent visas. During the past decade, in particular, there has also been a sharp increase in immigrants from Central America and South America.

Along with this continuous immigration from Latin America, the number of U.S.-born Latinos in California continues to rise. Birth rates and family size among Hispanics continue to be larger than the U.S. average, although recent years have witnessed a decline in the Hispanic birth rate. Moreover, the Hispanic population is considerably younger than the overall U.S. population, another indicator of potential future population increase. One reflection of the changing demographic face of California is the fact that Hispanics now compose about half of all kindergarten students in the Los Angeles Unified School District, the state's largest district, while other school districts are reporting equally dramatic increases in Hispanics.

But numbers alone do not tell the story. While progress has generally been slow, Chicanos and other Hispanics are now making strides in education, political sophistication, and effectiveness for constructive societal change. Their ability to accomplish this change should be further strengthened as pan-Hispanic identity among various Latino national-origin groups becomes a greater reality. These three factors — numerical growth, developing skills and awareness, and greater pan-Hispanic identity — make it almost certain that Hispanics will have an unprecedented influence over the future of California.



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Hobart Mills Honeydew	
Quaternary	2
Grand Total	395

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Appendix E:

Water Supply Evaluation

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NEVADA COUNTY DRAFT CANNABIS ORDINANCE

WATER SUPPLY EVALUATION



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Water Supply Evaluation for
Nevada County Draft Cannabis Ordinance

December 2018

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Prepared for:
Nevada County



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1. INTRODUCTION

This Water Supply Evaluation (WSE) provides a technical water analysis to support the Nevada County Cannabis Ordinance (Ordinance)¹ Environmental Impact Report (EIR). The WSE analyzes Nevada County's (County) water supplies as well as the potential for additional water demands throughout the County based upon adoption of the Ordinance. The Ordinance allows for both commercial and non-commercial cannabis cultivation throughout the County but limits the cultivation based upon lot sizes and zoning designations. The County's 2014 General Plan Update is the guiding document related to the location of identified lands that could produce cannabis as permitted by the Ordinance. The WSE is further informed by existing water supply documentation from multiple agencies, including: Nevada Irrigation District (NID), the California Department of Water Resources (DWR), the State Water Resources Control Board (SWRCB), Truckee Donner Public Utility District, and Martis Valley Groundwater Management Area.

1.1 Method of Analysis

As the lead agency under the California Environmental Quality Act (CEQA), the County is assessing the potential environmental impacts associated with adoption of the Ordinance. The CEQA Guidelines provide that an EIR for this Ordinance must describe the significant environmental effects that may result from the Ordinance's adoption.² The EIR must evaluate the Ordinance's effects on both the existing environment and the environment envisioned by the Ordinance.³ Therefore, the WSE considers the potential county-wide impacts to water resources associated with the proposed Ordinance as compared to the existing impacts on the water resources under the current land use rules. The results of this comparative analysis may be used to evaluate the potential secondary effects that may result from the adoption of the Ordinance including cumulative and industry growth-inducing effects. Also, **Section 5** of this WSE includes recommendations to avoid or minimize potential impacts.

A WSE is not a statutory requirement, and, as such, there are no legally recommended substantive requirements for preparing a WSE. Nevertheless, given the desire for internal consistency, the need to assess whether the draft Ordinance will have environmental affects in Nevada County, and the implications of EIR tiering for future projects, the WSE provides a formal water supply and demand evaluation to inform the EIR impacts

¹ The WSE analysis is based upon the draft Ordinance dated May 2018.

² CEQA Guidelines § 15002(a)(1)

³ *Environmental Planning and Information Council v. County of El Dorado*, 131 Cal. App. 3d 354 (1982). In *Environmental Planning and Information Council*, the Court found that if an EIR must analyze the impacts of the proposed changes against the existing environment rather than relying on previous EIRs such as ones prepared for a general plan.

analysis and the Ordinance decision-making process.⁴ In addition, a WSE may become a platform from which to prepare future water analyses related to the Ordinance and its implementation. The analytical components of this WSE are outlined below.

1.1.1 General WSE Contents

To effectively inform the necessary environmental documentation, a WSE contains the following elements:

1. **Study Area:** The Study Area is the geographic boundary of the political jurisdiction preparing the WSE. Definition of the geographic study area is critical for analytical purposes because the land use based demand projections necessitate use of consistent total acreage figures.
2. **Land Use Data:** The Study Area sets the boundaries for preparation of the land use data, including the land use classifications and parcel acreages for all land area. A standard 20-year demand projection consistent with requirements of other water planning documents is maintained.
3. **Water Demands:** Based upon the land use data, unit water demand factors are assigned to all land areas based upon the land use classifications and other relevant factors. The unit water demands are presented at the level of detail applicable to the draft Ordinance that may affect unit water demands. Like other water planning documents, the water use information grounding the analysis is “reasonably available information” that helps inform decisions.
4. **Water Supplies:** The WSE includes a description of the County’s current and future surface water supplies. This WSE also provides a description of the relevant groundwater conditions in the County based upon available DWR information, local management actions, and other information that informs the groundwater analysis.
5. **Integration of Supplies and Demands:** A discussion of the relationship between supplies and demands provides a basis for assessment of potential environmental impacts that might materialize with the expansion of existing supply infrastructure or development of new supplies.
6. **Conclusions and Recommendations:** With mitigation and overriding policy considerations in mind, develop conclusions related to integration results that will be useful in the contemplation of more detailed policy or future policy decisions.

⁴ Because there is not a statutory requirement for a Water Supply Evaluation, the elements listed are recommended. The recommended contents of the elements are derived from statutory language for Urban Water Management Plans and Water Supply Assessments.

Accordingly, this WSE contains all components described above and is organized as described below:

- ◆ **Section 1** – Introduction – this section provides the above-described WSE introduction and outlines the study area and land use data necessary to address other components of this analysis.
- ◆ **Section 2** - Water Demand Analysis – this section includes an analysis of allowable grow types, allowable grow lots, and projected water demands.
- ◆ **Section 3** - Water Supply Analysis – this section includes a detailed assessment of the nature and extent of the water supply sources available to serve the various demand areas within the County.
- ◆ **Section 4** - Impact Analysis of Demands on Supplies – this section integrates the findings of the water supply and demand analyses to articulate conclusions to assist the County in its determinations of impacts.
- ◆ **Section 5** - Findings and Recommendations – this section highlights findings in the water supply, demand, and integration analyses and provides a list of recommendations to address key impacts and issues with the Ordinance as written.

The water demand analysis considers the amount of land available for cannabis production under the Ordinance, assesses the potential demands associated with the grow types allowed under the Ordinance, and estimates future demands for water in various water year types. The water supply analysis evaluates the current and future reliability of the water supplies available to areas of the County. The impact analysis considers the likelihood that the available supply can satisfy increased water demands as presented in the demand analysis and the overall regulatory issues and impacts to the available supplies. Last, the recommendations are provided to aid in refinement of the final environmental analysis to minimize the potential impacts that the draft Ordinance may create.

1.1.2 WSE Project Alternative Selection

CEQA Guidelines § 15126.6 outlines the requirements for evaluating the environmental impacts of project alternatives, including the no-project alternative. This regulatory requirement allows for feasible options to be considered but states that “[a]n EIR need not consider every conceivable alternative to a project.”⁵ This WSE analyzes a single water supply alternative in order to best inform all project alternatives considered in the EIR. A WSE is a unique technical water document because it provides more flexibility in

⁵ CEQA Guidelines 15126.6(a).

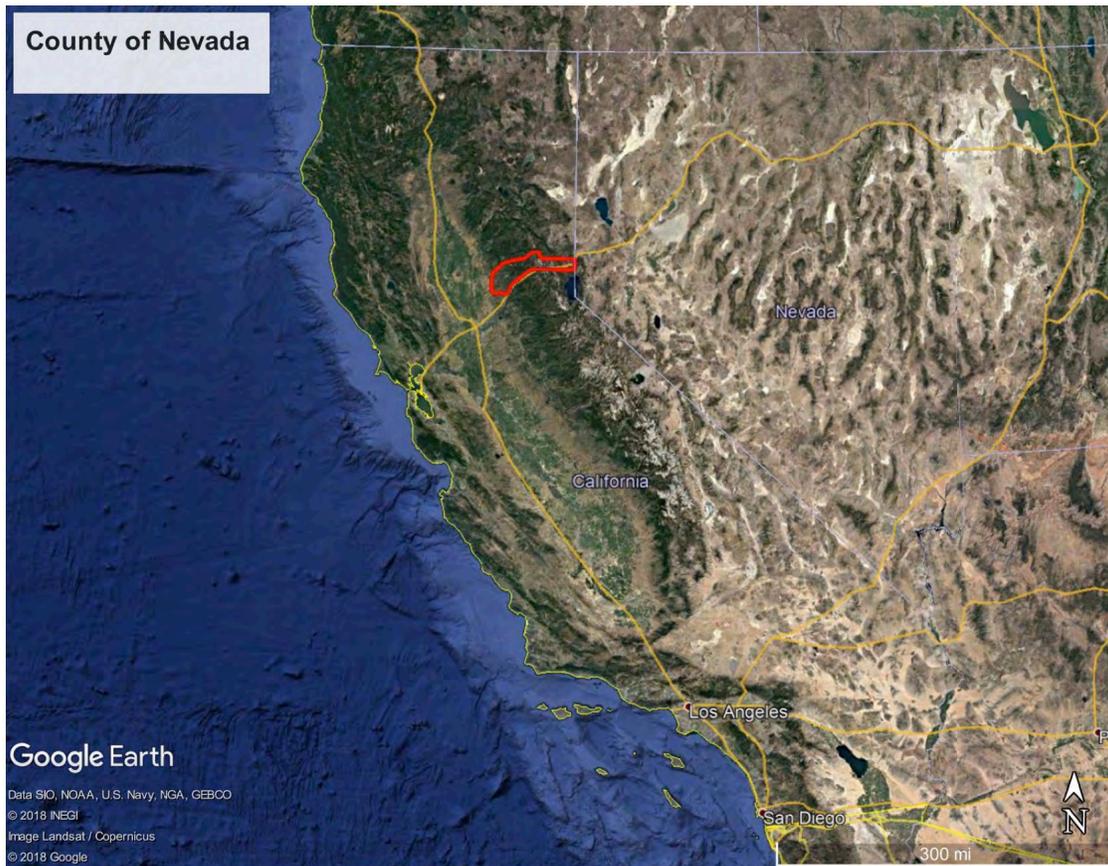
the consideration of project alternatives under CEQA when there is not an overriding statutory requirement to generate specific information (such as the case with the SB 610 WSA). These scenarios might include land use designation changes in the existing jurisdictional boundaries, a proposal for various changes within a Sphere of Influence (SOI), and even consideration of future land use modifications within a proposed SOI. Each of these footprints has an existing water demand and a potential future water demand consistent with the jurisdiction's proposed land use plans. To consider the environmental impacts of the "project," it is necessary to evaluate the existing and future water demands and the associated hydrology and water quality impacts. This WSE analyzes the most significant water demand implications associated with adoption of the Ordinance. Specifically, the analysis addresses water demands that could develop based upon cannabis production to the fullest extent allowed by the Ordinance throughout Nevada County.

1.2 County Description

Nevada County is located on the eastern side of the Great Central Valley in northern California and spans through the Sierra foothills, across the Sierra divide, to the Nevada border. The County is bordered in California by Placer, Yuba, and Sierra Counties until it reaches the State of Nevada on its eastern most lands. The County was formed in 1851 during the gold rush era and set the County seat in Nevada City. The County consists of 974 square miles and has a population of approximately 100,000 people.⁶ The population centers of Grass Valley, Nevada City, and Truckee are relatively small compared to the larger population centers in some neighboring counties. The County features temperate weather on the western side of the County from its western-most extent up into the Sierra Foothills. Much of the land in this area is used for farming and ranching. The middle and eastern side of the County are dominated by the Sierra Nevada Range with elevations reaching over 9,000 feet and harsh, freezing conditions common during winter months. **Figure 1-1** depicts the County in the context of California.

⁶ California Department of Finance Table E-4 for 2018, population of 99,155.

Figure 1-1 – County Map



The western foothill areas of the County with temperate weather and rural character, are the prime areas for outdoor cannabis cultivation. And the majority of the County’s surface water supplies are located on the western side of the Sierra Divide to support cultivation activities. Fractured rock and small alluvial groundwater systems cover the western and eastern slopes of the Sierras with a larger, managed, alluvial groundwater basin in the Martis Valley on the lee side of the Sierra. The County’s rural nature and its lightly populated lands provide a good location for cannabis cultivation. The transition of cannabis cultivation in all areas of the state, from an illegal activity to a controllable and taxable one has proven controversial throughout the state and Nevada County. As such, the County has a complicated history of regulation around the cannabis industry. These regulatory changes are forced to transition as state rules changes drive local cannabis cultivation policies and regulations.

1.3 Regulatory Background

Cannabis cultivation has a long history in Nevada County. The County's sparse population, abundant resources, and dense forests allowed for illegal cannabis cultivation away from population centers and regulatory control. The County's temperate climate and ideal growing conditions now makes County lands' a prime location for new grows as new laws are passed allowing for legal cultivation. This section describes the various laws, regulations, and policies that have impacted and shaped cannabis cultivation in the County.

1.3.1 State Plans, Policies, Regulations and Laws

In November of 1996 California voters passed the Compassionate Use Act (Proposition 215), which allowed for cultivation of cannabis for medical purposes. With little local oversight nor any rules in place, cannabis cultivation spread from residential grows to larger land parcels with commercial production methods. These larger cannabis cultivation efforts had significant potential for environmental damage through unregulated cultivation practices that produced hazardous chemicals that were harmful to the environment. The lack of local control and history of illegal cultivation led to conflict between property owners and resulted in strict regulation on the local level.

In November of 2016 Proposition 64 passed allowing for regulated indoor non-medical related growing. This statewide measure forced Nevada County to expand allowable growing options and led to the draft Ordinance currently under consideration by the Board.

1.3.2 Regional and Local Plans, Policies, Regulations, and Ordinances

In November of 2011, the County began drafting a medical marijuana ordinance and on May 2012 passed Ordinance 2349. This ordinance imposed restrictions limiting the size of cultivations and was challenged in the form of Measure S in November 2014. Measure S failed to pass. The Board subsequently passed Ordinance 2405 in January of 2016 that completely removed outdoor cultivation – marking a more restrictive approach to cannabis cultivation in the County. This approach resulted in Measure W being placed on the ballot to make the Board's restrictions voter sanctioned. Measure W failed in June of 2016 resulting in the board passing Ordinance 2416 in July of 2016 that again allowed for outdoor cultivation under regulated conditions. The board altered the Ordinance 2416 again in January of 2017 to comply with Proposition 64. In May of 2017, a Community Advisory Group was created and drafted recommendations for cannabis cultivation to the Board in December of 2017. In May of 2018, the Board approved a draft Ordinance prepared by County Staff for long-term review in the form of an EIR. In July 2018, the Board voted to put a measure on the ballot to establish a cannabis business license tax.

Measure G passed in November of 2018. In October of 2018, the Board authorizes the Community Development Agency to establish a temporary authorization process in response to State inquiries.

Currently, cultivation is allowed under the existing ordinance and growers as well as potential growers are allowed to receive temporary authorizations that allow them to meet the draft Ordinance regulatory requirements. This WSE supports the EIR that addresses the environmental impacts associated with Ordinance adoption.

1.4 Ordinance Description

The Ordinance allows for Commercial and small Non-Commercial cannabis cultivation under specified conditions throughout the County. For Commercial Cultivation, larger lots are allowed to grow more and the cultivation limits are designated by canopy square footage rather than on a per plant limit for acreage. The Draft Ordinance relied on the land use planning of the 2014 General Plan Update from which the following zoning types are taken.⁷ Commercial Cultivation is permitted on General Agriculture (AG), Agriculture Exclusive (AE), and Forest (FR) land use zoning types. Non-Commercial Cultivation is designed to address small grows for personal use. The Non-Commercial Cultivation is limited to 6 plants. Non-Commercial Cultivation is permitted on Single Family Dwellings (R1), Multi-Family Medium Density (R2), Multi-Family High Density (R3), Residential Agricultural (RA), AG, AE, FR, and Timberland Production Zone (TPZ) land use zoning types.

Table 1-1 – Land Use Descriptions⁸

Zoning Code	Description
R1	Single Family Dwellings up to 4 dwelling units per acre
R2	Multi-Family Medium Density up to 6 dwelling units per acre
R3	Multi-Family High Density up to 20 dwelling units per acre
RA	Residential Agriculture 1.5 acre minimum or 3 acre minimum without public water or sewer
AG	General Agricultural for farming and ranching with non-agricultural used being secondary
AE	Agricultural Exclusive uses incompatible with agriculture are not permitted
FR	Forest are for the protection and production and management of timber
TPZ	Timberland Production Zone for production of timber and compatible uses

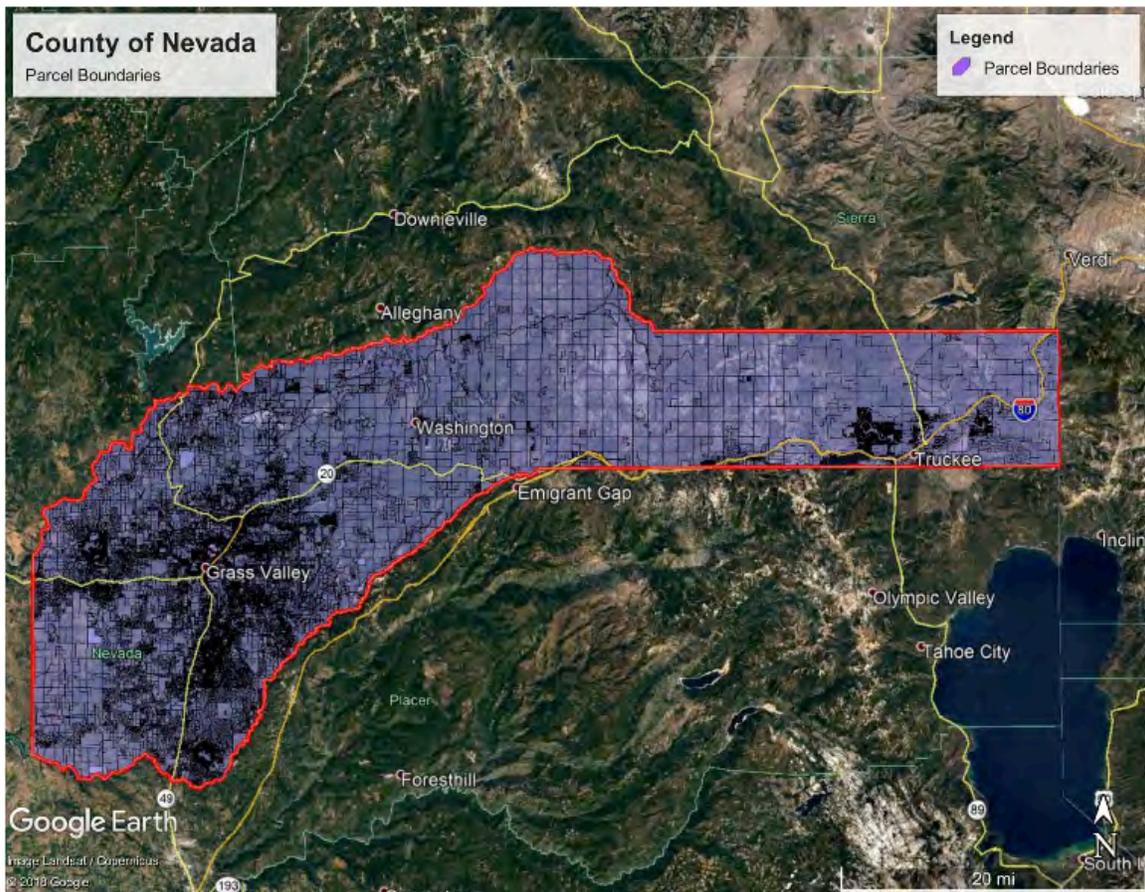
This WSE assumes that 100% of eligible properties under the terms of the draft Ordinance engage in cannabis production. This assumption is based upon a number of important criteria that will inform the environmental analysis. First, there are limited

⁷ Nevada County General Plan 2014 Land Use Update, 5th Revision.

⁸ Nevada County Code, Title 3 Land Use and Development Code, Section II Zoning Regulations, Article 2 Zoning Districts.

examples of this type of Ordinance being adopted in other jurisdictions and no known examples of similar ordinances being in place for enough time to allow analysis of long term effects. Second, assuming that all eligible cannabis production parcels are put into cannabis cultivation allows for full assessment of the potential environmental consequences as it relates to water use. And last, assuming full county-wide production informs the water supply availability in differing locations in the County. Since both Commercial and Non-Commercial Cultivation is permitted on AG, AE, and FR land use types, when size limits permits, this analysis defaults to Commercial Cultivation to capture a the largest water demand potential.

Figure 1-2 – County Area All Parcels



1.4.1 Land Use Area Descriptions

Given the size of Nevada County and the Number of lots involved it is clear that some divisions needed to be identified in order to simplify the water analysis. Since this evaluation is focused on water, the separation of NID and the area in Martis Valley Groundwater Basin was logical as those areas have ongoing water planning efforts. And although there are alternative water supplies available in these areas, the planning and

management of water supplies directed by the overlying management entities guides the water supply impact assessment. The remainder of the County area could be served by generally low production wells from non-managed aquifers in fractured rock or by surface water rights derived from the states' water rights system. This remaining area was still large so it was divided at the 6,000 foot elevation mark going east and west. This location crosses the entire County near Cisco Grove in a general line from North to northwest. The designated areas are more fully described below.

The first area – Area 1 – is the area located in the Nevada Irrigation District (NID) service area that is contained in Nevada County. The NID service area as shown on service area maps obtained from NID totals over 278,000 acres both inside and outside of Nevada County. The location of NID being in the foothills generally below the snowline combined with its reliable water supplies make it a prime cultivation location. NID's water supplies are derived from their own surface water rights and thus may be analyzed separately from other sources.

The next area – Area 2 – includes lands that are outside of NID's service area but west the 6,000 foot elevation mark. This area extends from the western border of the County and east to the 6,000 foot elevation mark which lies around the mid point of the County – approximately where highway 80 reaches Cisco Grove. This area makes up the other large growing area in Nevada County but the small number of surface rights mean that the majority of this cultivation will be supported by groundwater.

The third area – Area 3 – is that area which lies west of the 6,000 foot line discussed previously to the eastern border of the California but excludes the Martis Valley area. This area is almost entirely above the snow line and has many areas with exposed granite and very little top soils. Cultivation will most likely be supported by groundwater from fractured rock aquifers. This area has a number of parcels that are undivided sections of forest land so the majority of the land is dominated by a relatively small number of parcels.

The last area – Area 4 – is that within the Martis Valley Groundwater Basin in Nevada County. This is the only DWR defined alluvial groundwater basin the Nevada County. The presence of a Groundwater Sustainability Agency (GSA) and the Martis Valley Groundwater Management Plan were the primary reasons for separating this area. A GSA is a separate entity tasked with managing the groundwater basin in a sustainable manor that will be producing a legally binding Groundwater Sustainability Plan (GSP) by 2022.

1.4.2 Cannabis Cultivation in Land Use Areas

Cannabis cultivation will vary between the sub areas chosen due to water source as well as climate differences. Nevada County comprises approximately 974 square miles or 623,000 acres. Of that area a very small portion will actually be used for cannabis cultivation due to setback requirements established in the Ordinance. However, since the cultivation limits are set by the parcel and not by the cultivated acre, the number of parcels of a given zoning is the controlling factor.

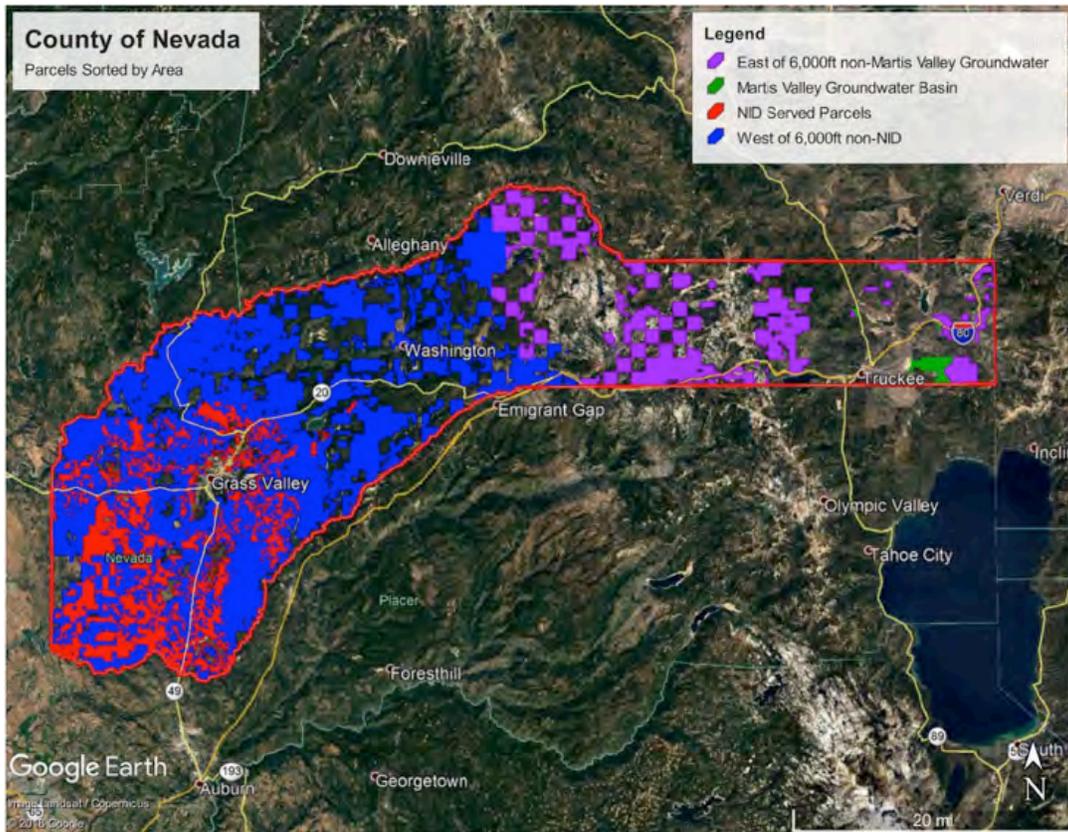
The NID service area in Area 1 will have the most potential grows with over 30,000 parcels meeting zoning and size requirements. While the majority of the parcels are residential grows, over 17,000 parcels, the commercial grows have a much larger potential water demand.

The non-NID area west of the 6,000 foot mark – Area 2 – is the next largest grow area with over 21,000 parcels meeting the zoning and size requirements. Nearly 12,000 parcels are in the commercial grow type so potential demands are only slightly smaller than the NID area.

The non-Martis Valley area east of the 6,000 foot elevation line – Area 3 – is a large area but with a very small potential water demand. Due to zoning in this area and the number of undivided forested sections, only 1859 parcels meet zoning and size requirements. This represents a very small potential water demand.

The Martis Valley area – Area 4 – is dominated by Truckee so only 239 parcels meet the zoning and size requirements that also fall in County Jurisdiction. The potential water demands from this number of grows is also relatively small.

Figure 1-3 – Sub Areas for Supply Analysis with Applicable Parcels Colored by Location



2. ORDINANCE WATER DEMANDS

Calculating the potential water demands associated with cannabis cultivation in Nevada County is the fundamental baseline for evaluating the potential environmental impacts. This section describes the methodology and provides the supporting evidence used to derive the estimated annual water demand created by cannabis cultivation allowed under the Ordinance.

2.1 Background and Source Data

The key to understanding the impacts of cannabis production on Nevada County relies on the location and the quantity of water demanded. In other words, the potential location of the grow is determined by the land use designation under the 2014 General Plan Update and the Ordinance's regulation of the type of grow related to the identified land use designation. Further, the cultivation technique that a potential grower may use at the identified location corresponds to a calculable water demand. In short, to calculate water demand, a number of details about the production methods must be assessed throughout the County including:

- ◆ The type of cannabis grows to be allowed on designated lands
- ◆ The size of the cannabis grows and/or number of cannabis plants allowed
- ◆ The method of growing cannabis on designated lands
- ◆ The irrigation methods applied in cultivation

California's legalized cannabis production is in its infancy stage. And, in other areas in the United States, cannabis production is also in its early stages, limiting reliable data that is applicable to California's geographical conditions. As such, there is a distinct lack of scientifically developed and peer reviewed published crop data supported by government institutions. Where information is currently available, it is typically from the few existing commercial operations where reporting is mandatory, from out of state operations with different climatic conditions, or from industry publications where transparency and impartiality should be questioned. Nevertheless, there is sufficient publicly available information that allows for an analytical evaluation to calculate water demands associated with cannabis production in Nevada County. Out of an abundance of caution, the methodology in this WSE is conservative, erring on the side of additional water demand so that the water-related impacts associated with adoption of the Ordinance are not underestimated.

After reviewing the details of the proposed Ordinance and the growing methods allowed by the Ordinance, a water use comparison was identified. The water demand information was derived from a Cannabis Water Use Study published in the Humboldt Grower in 2015. The methodologies identified here consisted of the traditional Proposition 215 related method of outdoor cultivation and was compared to modern indoor bed cultivation.⁹ The methodologies in this WSE use the information in this analysis and adjust that information where applicable based upon Nevada County’s climate and geography, the identified growing parameters provided by the Ordinance, and applicable growing methodologies that may be used in Nevada County.

2.2 Types of Grows Permitted Under the Ordinance

The Nevada County Draft Cannabis Cultivation Ordinance allows for two distinct types of cultivation: Residential and Commercial. These cultivation categories have significant differences in the methods and magnitude for cultivation that translate into a broad spectrum of water demand calculations. The following sections detail the differences between Residential and Commercial cannabis cultivation.

2.2.1 Residential Cannabis Cultivation

Residential Cannabis Cultivation is allowed on single-family residential lots with fairly simple restrictions and is intended to meet personal uses only. There are minimum setbacks of 100 feet from property lines that effectively limit the minimum lot size for residential cultivation.¹⁰ For the purposes of the WSE a minimum lot size of 1 acre was used to account for the setbacks.¹¹ Residential cultivation is limited by the ordinance to 6 plants and restricted to indoor cultivation only.

As a result of these restrictions, the test group from the Humboldt Grower study mimics a typical residential grow style that may be found in Nevada County. The method presented is known as the greenhouse light deprivation method of growing which typically involves cloned plants that have a relatively short growth cycle. The plants are typically grown in an elevated lined bed with about 25 gallons of soil per plant. This method results in a 90-day crop cycle allowing for up to 4 crops per year.¹²

⁹ <https://humboldtgrower.wordpress.com/2015/05/07/may-2015-humboldt-county-cannabis-water-use-study/> Accessed Nov 2018

¹⁰ The draft ordinance allows for property owners to apply for variances on setbacks which would be reviewed on a case by case basis. For the purposes of this analysis, no variances are assumed.

¹¹ This 1 acre minimum assumes a square 1 acre lot which would have 8.7ft by 8.7ft of legal growing area.

$\text{Sqrt}(1 \text{ acre}) = 208.7 \text{ ft}$ $208.7 \text{ ft} - 100\text{ft setback} - 100\text{ft setback} = 8.7\text{ft grow area}$

¹² It should be noted that growing from seeds would technically reduce this time as living clones were used for the 90 day growth cycle.

Table 2-1 shows the calculations used to generate a demand number for Residential cannabis production in Nevada County. There are 26,993 parcels available for the production of cannabis based upon the Ordinance regulatory structure. The calculated gallons per year for total production of the 26,993 parcels is 34,483,558 gallons (approximately 34 million gallons) or approximately 106 acre-feet per year. Accordingly, if all 26,993 parcels that are available for the production of cannabis actually produce cannabis to the fullest extent allowed by the Ordinance, the additional water supply needed County-wide would be 106 acre-feet per year. This is a very small amount of water.

Table 2-1 – Estimated Residential Grow Water Demand

Demand Type	Parcel Count	Use GPY	Use AFY
Residential	26,993	34,483,558	106

2.2.2 Commercial Cannabis Cultivation

Commercial cultivation is permitted on parcels over 2 acres in size. Commercial cultivation means that cannabis would be produced for sale on the open market. The Ordinance regulates how commercial cannabis cultivation may manifest depending on the lot designation, lot size, and lot location. Specifically, the commercial permits are available only for lots zoned AG, AE, and FR. Moreover the commercial cannabis production is based upon square feet of canopy and not plant count like the residential cultivation as described in the Ordinance. Canopy is the area covered by the leaves of the cannabis plant.

The Ordinance allows 2 acre to 5 acre parcels to have 500 square feet of canopy. Parcels over 5 acres and up to 10 acres may have up to 2,500 square feet of canopy. Parcels over 10 acres and up to 20 acres may have up to 5,000 square feet of canopy. Parcels over 20 acres may have up to 10,000 square feet of canopy. The canopy coverage translates into the area undergoing photosynthesis that may then be used to calculate potential water demands.

The Ordinance allows Commercial Cannabis Cultivation to utilize indoor, outdoor, and mixed light grows. These cultivation types have significantly different water demands and production levels because each method of growing results in different cannabis plant water consumption. Between these grow types, the outdoor cultivation has the highest water use and biomass production for a single crop due to the much taller plant sizes. The outdoor cultivation large water use is associated with lack of humidity regulation creating higher evaporation rates that can be better controlled in the indoor commercial grows. In addition, outdoor grows typically use separate larger planting beds with deeper soils and taller plant sizes where a higher ratio of support biomass is needed relative to

production biomass.¹³ Together these differences in cultivation methods increase applied water and increase overall cultivation water consumption for outdoor cultivation.

Conversely, the indoor cannabis cultivation will use less water where climate can be controlled, planting densities are increased, plants are smaller, and water applications can be better controlled. However, the indoor commercial grows will typically be cropped multiple times a year to increase the production period but the net annual water demands per pound of production are comparatively low. Thus, although outdoor cannabis cultivation may have a higher water use for a single planting, the indoor cannabis cultivation uses more water because there are potentially as many as four plantings that can occur in a year.

For the purposes of this WSE, all commercial grows are assumed to be irrigated in the outdoor fashion for a single grow.¹⁴ This cropping type is defined by large separate beds per plant with a single longer growing season and plants reaching several feet tall by the time of harvest. This calculation methodology was used because outdoor water consumption will result in a more conservative water demand and account for the inexperienced growers that may choose to start with outdoor cultivation.¹⁵ **Table 2-2** shows the estimated Commercial Grow Water Demand per zoned parcel and parcel count as allowed under the draft Ordinance.

Table 2-2 – Estimated Commercial Grow Water Demand

Zoning	Parcel Count	Max Use (gpy per parcel)	Use AFY
AG (>2-5 acres)	6263	24,594	473
AE (>2-5 acres)	20	24,594	2
FR (>2-5 acres)	553	24,594	42
AG (>5-10 acres)	7604	122,969	2,870
AE (>5-10 acres)	25	122,969	9
FR (>5-10 acres)	599	122,969	226
AG (>10-20 acres)	5095	245,938	3,845
AE (>10-20 acres)	12	245,938	9
FR (>10-20 acres)	591	245,938	446
AG (>20 acres)	4225	491,875	6,378
AE (>20 acres)	389	491,875	587
FR (>20 acres)	1831	491,875	2,764
Total	27,207		17,650

¹³ <https://humboldtgrower.wordpress.com/2015/05/07/may-2015-humboldt-county-cannabis-water-use-study/> Accessed Nov 2018

¹⁴ This method of growing is typically referred to as the “Traditional 215” method referring to prop 215.

¹⁵ It should be noted that indoor cultivation may have as many as 4 commercial growth cycles occur in a year. Despite having an entire year for growing, the outdoor grow for a single season is a significantly higher water use per canopy area.

2.3 Growing Areas

Nevada County extends from the western portion of the Central Valley up to over 9,100 feet at its highest point near Donner Pass and through Truckee to the Nevada border. This area includes 3 larger cities, 2 large water providers, a network of fractured rock groundwater supplies, and only one recorded groundwater basin in DWR Bulletin 118 in the Martis Valley. In order to simplify the demand analysis this WSE divides the County into four different cannabis cultivation areas.

To analyze the potential growing areas, Tully & Young worked with the County and Kimley-Horn to determine the best data sources for analysis. Tully & Young worked with Geographic Information System (GIS) data directly from the County's public GIS portal and with data first processed by County Staff. This data was processed to pull out the size, zoning type, and location of each parcel available for cannabis cultivation. First, the city limits were removed from the county-wide parcel count as those areas are not subject to the County's Ordinance. In other words, this reduction eliminated the areas which a city has sole authority to impose its own cannabis cultivation rules. Next all public land was removed for the potential parcels because cannabis production on County-owned property and national forest land will not occur.

Once the City, County and federal lands were removed from the County land use maps, the remaining lands were then split into four main "areas" as described in Section 1. This designation is repeated here as it is a critical starting point for allocating water demands based upon land use classifications.

Area 1 encompasses the Nevada Irrigation District (NID) service area. This area was chosen because Nevada Irrigation District has authority to deliver its water supplies – the largest aggregated surface water supplies in the County – to lands throughout its service area. Using the NID boundary designation to define Area 1 allows better quantification of potential water supply impacts in that unique land area.

The second area includes the lands outside of NID service area but west the 6,000 foot elevation mark. Area 2 extends from the western border of the County and east to the 6,000 foot elevation mark. This eastern extent lies around the mid point of the County approximately where Interstate 80 reaches Cisco Grove. This area was designated in order to capture all lands that surround Nevada Irrigation District up to an elevation that may limit outdoor cultivation.

The third area – Area 3 – includes lands that lie east of the 6,000 foot line at approximately Cisco Grove on Interstate 80 to the eastern border of the County where it meets the State of Nevada. Area 3 connects with Area 2 at Area 2's eastern boundary

and stretches to the Nevada state line. Area 3, however, excludes the Martis Valley area denoted in Area 4.

The fourth and final area includes those lands within the Martis Valley Groundwater Basin as defined on the Martis Valley Groundwater Basin Authority's map filed under the Sustainable Groundwater Management Act (SGMA). Area 4 was designated because it aligns with the managed groundwater supplies in the designated alluvial groundwater basin that is recorded in Nevada County. The relationship with the groundwater supply source allows for better understanding of potential impacts of the Ordinance.

Once each area was separated, the parcel data was analyzed and counted based on zoning as designated in the 2014 General Plan Update. A small number of the parcels, especially the larger vacant parcels, have multiple zoning types assigned to them in a specified order. When multiple zoning types were encountered in the General Plan Update, each parcel type was counted based upon the first land use type in the list that allowed for cultivation.¹⁶ It should be noted that since the parcel counts were drawn from GIS data associated with the General Plan, any inconsistencies in the GIS data would have also made their way into the parcel counts. The GIS data was not independently analyzed to determine whether inconsistencies existed. Nevertheless, even if inconsistencies do exist, the overall water demand differences that may be associated with a given parcel are relatively small and the total volume of demand is primarily driven by the large parcel counts in each land use category.

2.3.1 Area 1 – Water Demand in the NID Service Area

Area 1 – the NID area – had land uses designations derived from the 2014 General Plan Update and Nevada County GIS database. The data shows 17,309 residential parcels that could grow cannabis in accordance with the Ordinance requirements. The data also shows 13,509 parcels where commercial grows are permitted. The maximum total demands for the residential parcels total 68 acre-feet while the maximum possible demands for the commercial parcels is 8,222 acre-feet. The residential cultivation demands are very small in comparison to normal annual NID residential water use and likely below annual fluctuations in residential demands. As such residential demands should not result in a significant impact on the NID system. The commercial demands are much more significant but should be within the NID system capacity. Water demands may already exist on some of the commercial designated parcels that may offset the additional demands identified in this analysis. In other words, these demands may not be actually fully additive to the overall water system but may instead offset existing demands that already exist on the identified parcels. Nevertheless, out of an abundance of caution, this analysis assumes that the demands identified here are additional demands

¹⁶ Given the small number of parcels that fell into this category, the choice of another method of sorting would amount to very small potential differences in the overall results.

for water in the NID service area. These additional demands would be met with NIDs surface water supplies and, shortages (if any), would be based on NIDs shortage calculations. **Table 2-3** summarizes the demands in Area 1.

Table 2-3 – Area 1 - NID Area Demand

Demand Type	Use GPY	Use AFY
Residential	22,112,248	67.86
Commercial	2,657,133,344	8,154.44
Total	2,679,245,591	8,222.30

2.3.2 Area 2 – West of 6,000 Foot non-NID Area

Area 2 is the area west of the 6,000 foot elevation line that does not include Nevada Irrigation District but borders Placer, Yolo and Sierra counties. The data showed that Area 2 had 9,311 residential parcels that could cultivate cannabis and 11,976 parcels where commercial grows are permitted. The demands total 37 acre-feet and 7,431 acre-feet respectively. These demands would most likely be met with local groundwater supplies derived from groundwater wells and surface water supplies derived from water rights that are independent of the NID system. The majority of parcels in Area 2 are served by small wells in the fractured bedrock aquifers and the smaller alluvial aquifers that are not large enough to be identified (and quantified) by DWR. The demands per parcel, as described above, depend on canopy size as directed under the Ordinance. The canopy size methodology shows that the demands per parcel are small until a canopy of 2,500 square feet and above is attained. And even with this larger canopy area, the demands added would be typically smaller than the existing demands for irrigated agriculture or ranching operations that may already exist on any identified parcel. For example, if a 20+ acre property already had a house and irrigated crops or animal husbandry that used water from a well, the addition of the cannabis production would, at most, likely equate to existing use. As such, the impacts to groundwater and surface water would be location specific and depend upon whether alternative crops or ranching operations were using the water supplies that are now to be designated for cannabis cultivation. **Table 2-4** summarizes the total water demand associated with cannabis cultivation under the Ordinance in Area 2.

Table 2-4 – Area 2 - West of 6,000 foot non-NID Area Demand

Demand Type	Use GPY	Use AFY
Residential	11,894,803	36.50
Commercial	2,421,599,000	7,431.61
Total	2,433,493,803	7,468.12

2.3.3 Area 3 - East of 6,000 Foot non-Martis

Area 3 is the area within Nevada County that lies east of 6,000 foot area separating Area 2 and stretches all the way to the Nevada state line while excluding Area 4 (the Martis Valley Area). The data for Area 3 showed the potential for 360 lots with residential grows and 1,496 lots where commercial grows could be permitted. The residential demands total 1.4 acre-feet and 1,754 acre-feet respectively. Similar to Area 2, these demands would be met with local groundwater and surface water supplies. The majority of Area 3 is served by small wells in the fractured bedrock aquifers and the small alluvial aquifers that are not large enough to be identified and quantified by DWR. All of the demand impacts described in Area 2 apply to Area 3. However, the elevation and climate at the elevations in Area 3 will restrict the growing season and likely prevent outdoor cultivation being chosen as the preferred method for grows. Additionally, the majority of the commercial parcels were FR zoned parcels over a few hundred acres. The result of these large parcels is that the demands would be separated from each other by a significant distance and as such be unlikely to impact neighboring wells. As a result, the demands in Area 3 are conservative and with the spacing and size of the majority of the parcels would likely only see local impacts measurable on the parcel doing the cultivation.¹⁷

Table 2-5 – Area 3 - East of 6,000 feet non-Martis Area Demand

Demand Type	Use GPY	Use AFY
Residential	459,900	1.41
Commercial	571,583,344	1,754.12
Total	572,043,244	1,755.54

2.3.4 Area 4 - Martis Valley Groundwater

Area 4 is the Martis Valley Area that is defined by the portion of the Martis Valley Groundwater Basin that lies within Nevada County. The Martis Valley area resulted in 13 lots with residential grows allowed and 226 lots where commercial grows are permitted. The demands total 0.05 acre-feet and 310 acre-feet respectively. The resulting demands in the Martis Valley area are so low that impacts to the groundwater levels would likely be below the season differences in existing pumping and therefore difficult to ascertain. It should be noted that although these parcels are on unincorporated County lands, many lie within the Truckee Donner Public Utility District sphere of influence.

¹⁷ Groundwater down draw is local to the well in situations where area pumping is low. Additionally, fractured rock aquifers present inconsistent connectivity between neighboring wells in most cases.

Table 2-6 – Martis Valley Groundwater Basin Area Demand

Demand Type	Use GPY	Use AFY
Residential	16,608	0.05
Commercial	101,080,313	310.20
Total	101,096,920	310.26

2.4 Percent of Possible Land in Production

For the purpose of this WSE, all potential lands are assumed to be additive in production even though it is highly probable that lands identified may already be in production for other agricultural purposes – farming and/or ranching. This assumption was made out of an abundance of caution in order to identify the broadest potential impacts associated with the Ordinance. In other words, there is no restriction in the draft Ordinance that would prevent all potential lots from going into production and the nature and extent of existing water-consumption on each individual parcel is not fully understood. Therefore, assuming that no water consumption is occurring on identified parcels and that all identified parcels would be available to produce cannabis, the highest impact scenario related to additional water demand is considered. Even with these assumptions, it is unlikely that all possible parcels identified in this effort will go into production, focusing the analysis on all possible parcels will account for all potential water-related impacts.

2.5 Total Potential Demands

The draft Ordinance results in approximately the same number of parcels in production between commercial and residential lots - 27,207 and 26,993 respectively. Due to the difference in allowable cultivation practices and thus, water use between commercial and residential grows, a similar number of lots has significantly different water demands. County wide, the water maximum additional water demands that could be attributed to cannabis cultivation in residential and commercial parcels under the Ordinance totals 17,756 acre-feet per year. **Table 2-7** shows the total demand calculations for all four land areas described in this WSE.

The total demand represents an assumed scenario where none of the lands identified as available for cannabis cultivation have any current form of irrigation or water use. In other words, there is no current demand on the identified parcels. Moreover, that all of the land available for cannabis cultivation under the Ordinance is actually converted to cannabis cultivation in the future. Numerous factors may influence the availability of these lands to cultivate cannabis, such as water supply availability, and the actual future use of all of the lands to grow cannabis. Nevertheless, out of an abundance of caution, to analyze the long-term potential impacts associated with adoption of the Ordinance, these conservative assumptions were made. The total demand of 17,756 acre-feet equates to

the demand for a medium size city or approximately 5,000 acres of land with an agricultural crop with an irrigation rate of approximately 3.5 acre-foot per acre.

Table 2-7 – Estimated Total Water Demand

Residential Zoning	Parcel Count	Use AFY
R1	3,471	14
R2	226	1
R3	68	0
RA (<5ac)	15,274	60
RA (>=5ac)	5,559	22
AG	1,785	7
AE	6	0
TPZ	604	2
Subtotal	26,993	106

Commercial Zoning	Parcel Count	Max Use (gpy per parcel)	Use AFY
AG (>2-5 acres)	6263	24,594	473
AE (>2-5 acres)	20	24,594	2
FR (>2-5 acres)	553	24,594	42
AG (>5-10 acres)	7604	122,969	2,870
AE (>5-10 acres)	25	122,969	9
FR (>5-10 acres)	599	122,969	226
AG (>10-20 acres)	5095	245,938	3,845
AE (>10-20 acres)	12	245,938	9
FR (>10-20 acres)	591	245,938	446
AG (>20 acres)	4225	491,875	6,378
AE (>20 acres)	389	491,875	587
FR (>20 acres)	1831	491,875	2,764
Subtotal	27,207		17,650

3. WATER SUPPLY

Nevada County water supplies are derived from two fundamental sources – surface water and groundwater. These natural supply sources are subject to a number of state laws and regulations that govern how the supplies may be extracted and used on land within Nevada County. In addition, Nevada County and other local regulatory agencies have additional rules that implicate water supply dissemination and use depending upon the location of a particular parcel of land. Accordingly, this section will: (1) describe the regulatory structure governing water disposition in Nevada County, (2) summarize the main water supply sources in Nevada County, and (3) assess the water supply availability in the four land-use zones identified in this document.

3.1 Governing Rules for Water Disposition

The rules governing water disposition in California are complex, incorporating aspects of century old mining customs, Roman law, English common law, judicial and administrative decisions, statutes, and local ordinances. Adding to the complexity, California recognizes several categories of water rights, each relating to various characteristics of land and water. Surface water rights are generally classified as riparian, appropriative, or contract rights, while water rights for underground waters are generally classified as overlying or appropriative. The type of right that attaches to a water source is important, particularly in light of the regulatory structure linked to the different rights and the existing demands for agriculture, municipal and industrial uses, and the environment. All water rights are further limited by Article X, Section 2 of the California Constitution that requires water to be reasonably used for beneficial purposes. This section describes the applicable surface water rules and groundwater rules applicable to Nevada County’s Cannabis Ordinance.

3.1.1 Surface Water Rules

Riparian Rights

Riparian rights confer upon the owner of land contiguous to the watercourse the right to a reasonable and beneficial use of water on his land. The water right is considered part of the land itself and the water need not be regularly used in order for the right to exist. Riparian landowners share the water supply in their watershed. No riparian has a priority right over another riparian water user and no riparian is entitled to more water than another riparian. The correlative nature of the right requires all riparians to communally reduce their uses in times of scarcity in order to ensure some water use for all. Riparian rights are generally legally superior to appropriative rights (regardless of the

appropriator's pre-1914 status) in that appropriators generally must curtail usage in times of short supply before any riparian is required to curtail usage.¹⁸

California law requires land owners that claim riparian water rights to file "Statements of Diversion and Use" with the State Water Resources Control Board so that the existence and use of these waters can be tracked. And although this law requires filings, the lack of a riparian right filing on a parcel of land does not preclude that a parcel of land may retain riparian rights. Similarly, the location of a particular parcel abutting a surface water system does not necessarily mean that the land has riparian rights. In other words, dormant riparian rights may exist on lands in Nevada County that may not be activated until the right holder exercises the rights and water users may be claiming riparian rights even though none actually exist on an apparent riparian parcel. Unlike other types of water rights, riparian water rights are not lost with non-use.

Appropriative Rights

The doctrine of prior appropriation is a system of allocation that confers the best right to the person who first puts the water to beneficial use – generally characterized as "first in time, first in right." There are generally two types of appropriative rights in California – those rights arising before 1914 and those rights arising after 1914. "Pre-1914 rights" are not subject to the permitting jurisdiction of the State Water Resources Control Board (SWRCB). In other words, none of the SWRCB's application and permitting requirements are applicable to pre-1914 water rights. Pre-1914 rights are subject to the jurisdiction of the courts. And because pre-1914 rights are older (i.e. more senior) than are post-1914 water rights, they are generally more valuable and less-susceptible to being curtailed in times of water shortage. Further, changes in uses for pre-1914 rights may be easier to achieve because there is less regulatory oversight on the water right itself. Last, like riparian rights, pre-1914 claimants must file a Statement of Diversion and Use with the State Water Resources Control Board. Although the SODU is merely a claim of right (not an actual right), state law requires that it must be filed.

Post-1914 rights are subject to the SWRCB's application, permitting, and licensing requirements as well as SWRCB's continued regulatory oversight. These rights are granted by the SWRCB and often contain regulatory limitations. For instance, Term 91 is a regulatory limitation in many post-1914 rights that requires curtailment of water diversion and use when the regulatory conditions in the Sacramento-San Joaquin Bay-Delta require water releases from the state and federal reservoirs. Changes to post-1914 water rights must be approved by SWRCB and the proponent of change must prove that the proposed changes will not injure other legal users of water. All new water rights are

¹⁸ There are very limited exceptions to this broad statement.

post-1914 appropriative rights and require an application and permit from the SWRCB before diversion and use.

Unlike riparian water rights, all appropriative rights may be forfeited or abandoned if they are unused. Generally, the statutory period for forfeiture or abandonment is 5 continuous years of non-use. Moreover, portions of the right may be forfeited or abandoned if a portion of the right is not continually used. When abandonment or forfeiture occurs, the water supplies may be available for the next senior water right holder.

Area of Origin

A whole body of water rights law – mostly untested – is the area of origin, county of origin, watershed of origin, and Delta protection statutes. These laws were developed to retain the priority to subsequent appropriative uses within an area, county, or watershed, as against out-of-basin permitted appropriations. Specifically, they were enacted to protect local water users from out of basin appropriations from the Central Valley Project and State Water Project. Area of origin rights consist of a priority right to satisfy present uses, as well as a priority right to satisfy future beneficial uses within a specifically identified geographic area. Although there are limited federal and state facilities in Nevada County, the breadth and depth of this particular area of law is not fully ascertained and may be applicable in Nevada County.

The Public Trust Doctrine

The Public Trust Doctrine obligates the state to preserve “trust resources” for current and future generations. This relatively recent doctrine is a judicially superimposed right upon the California water rights that is derived from Roman Law. The Public Trust Doctrine requires the state to take the public trust into account in the planning and allocation of water resources and to protect public trust uses where feasible and consistent with the public interest. The key issue here is that holders of valid surface water rights have no vested rights that are immune from reconsideration of the diversion’s propriety under the Public Trust Doctrine. Similarly, recent judicial actions have applied the Public Trust Doctrine to groundwater supplies. Accordingly, the public trust doctrine provides some means for the State to reconsider existing water rights – even pre-1914 rights and groundwater rights – in order to further public trust purposes.

3.1.2 Groundwater Rules

Overlying Groundwater Rights

In California, groundwater is not regulated under a statewide permit system. Property owners with land overlying groundwater can simply drill wells and extract water for use

on the overlying land. Much like riparian water users, the overlying users have shared water rights. The correlative nature of the right requires all overlying users to communally reduce their uses in times of scarcity in order to ensure some water use for all. Under this doctrine, there are no junior or senior overlying users who gain priority by pumping first or pumping more. Overlying users generally have a priority to groundwater resources over appropriative groundwater rights.

Appropriative Groundwater Rights

If there are groundwater supplies in a basin that are surplus to the overlying owners' needs, then this water is available for appropriation by non-overlying users for use on non-overlying lands. Most public water purveyors that use groundwater utilize the appropriative right. Here, the hydrology of the basin is the determining factor. If the appropriation of groundwater for the non-overlying use will not cause the basin to become overdrafted or injure other users of water, then an appropriation of groundwater for use on non-overlying property is allowed. Groundwater overdraft is defined as the condition of a groundwater basin or subbasin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years, during which the water supply conditions approximate average conditions (DWR 1998). Overdraft can be characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) is a relatively new state law that will impact groundwater use in California. Under the SGMA, Groundwater Sustainability Agencies (GSA) must be formed to govern groundwater use over particular geographic boundaries. The GSA's must develop Groundwater Sustainability Plans (GSP) that "sustainably" manage groundwater basins among the various current and future water users. The development of GSP's in Nevada County is ongoing and are only mentioned to reiterate that there may be future regulatory standards for groundwater extraction in certain areas of the County that are derived from GSP development.

County Well Permits

Nevada County issues well permits for wells drilled in Nevada County. The permitting process essentially requires a private landowner to contact a licensed well-driller. The well-driller will then prepare and submit an application for a well permit. The County will generally issue a well permit so long as the regulatory criteria are met. Other regulatory restrictions apply to wells in Nevada County like those that may be subject to the Truckee River Operating Agreement (discussed in **Section 3.1.3**).

3.1.3 Special Water Supply Issues

Adjudicated Water Supplies

Adjudicated water supplies are the subject of special agreements that are usually ratified by a court to settle disputes where water supplies are in high demand. Adjudicated water supplies may govern distribution of surface water or groundwater. Adjudicated supplies are often apportioned among the users regardless of their underlying water right's legal status. In other words, in an adjudication, a riparian water right may be quantified not only in its total volume but also in times that it is available for use. Each adjudication must be reviewed in order to establish the rules that would apply to diverting and using adjudicated waters.

Water Contracts

Aside from rights to divert surface water under the regulatory scheme described above, entitlements to surface water supplies can be obtained through contracting with entities that have appropriative rights. Two major entities – the Bureau of Reclamation through the Federal Central Valley Project (CVP) and the California Department of Water Resources through the State Water Project (SWP) – hold water rights that are delivered to end users through contracts. In Nevada County, the Nevada Irrigation District (NID's) holds water rights to various surface sources and enters contracts to deliver the diverted water supplies to retail providers (like cities) and other end users. This form of water entitlement will have other restrictions that impact the utility of the supply for the end users and govern usage in times of shortage. NID's contractors may have additional restrictions in their contracts if water derived from NID's rights is used for cannabis cultivation.

Truckee River Operating Agreement

The Truckee River Operating Agreement (TROA) governs water supplies derived from the Truckee River watershed – a portion of which is located in Nevada County. TROA is an interstate compact ratified by the United States Government and the Pyramid Lake Paiute Indian Tribe to manage the water supplies in the watershed. TROA governs diversions from on the lee side of the Sierra Divide that includes Lake Tahoe, Donner Lake, Prosser Reservoir, and Boca Reservoir and their associated watersheds, portions of which are located in Nevada County. TROA also has limited jurisdiction over groundwater supplies that impact surface water supplies. Thus, areas in the Martis Valley that use groundwater have TROA conditions where supplies interact. Although TROA only governs a portion of the water supplies in this part of Nevada County, it is important to note that it is an additional regulatory mechanism that may impact cannabis cultivation with water supplies located in the TROA jurisdictional area.

SWRCB Cannabis Water Permit

The SWRCB adopted a Cannabis Cultivation Policy (Policy) on December 18, 2017 to regulate cannabis cultivation for Commercial Recreational, Commercial Medical, and Personal Medical. At this time, the Policy does not govern recreational cannabis cultivation for personal use. The Policy update is currently in a draft form and will further refine water use for cannabis cultivation when the Policy is ratified sometime in 2019. The public hearing for the updated draft Policy is scheduled for February 5, 2019.

In the current Policy, the state is divided into 14 Cannabis Cultivation Policy Regions (Regions) to implement policy objectives. Nevada County is included in three different Regions. These Regions are the Middle Sacramento (region 5), Southern Sacramento (region 6) and Tahoe (region 8). Two of those regions – regions 5 and 6 are designated as “priority regions.” Priority regions are those that have special environmental concerns – like fish propagation for endangered species. The map in **Figure 3-1** depicts the 14 Regions and identifies the priority regions.

Figure 3-1 – Cannabis Cultivation Policy Regions



The Policy addresses three main water related issues – surface water diversions, groundwater, and waste discharge – that are intended to “protect water quality and instream flows.” This analysis will address the Policy issues associated with water diversions and groundwater.

Surface Water Diversions

The surface water diversion policies essentially fall into three distinct categories: (1) surface water diversion forbearance during the dry season to protect aquatic species, aquatic habitat, and water quality; (2) preservation of wet season surface water instream flows and maintaining high flow events; and (3) small irrigation and use registration (SIUR) requirements. These policies implicate water rights and may require additional compliance actions if the surface water rights are to be used for cannabis cultivation. Each water right must be analyzed to ensure compliance with the additional regulatory requirements. In some instances, water supplies that were once diverted and used for agricultural cultivation during the dry months, may be prohibited from additional diversion if cannabis cultivation is a new or additional use of the water supply. Each diversion must be analyzed on a case-by-case basis to address individual issues.

New SIUR water permits issued by the SWRCB as well as any larger scale appropriative water permit are subject to additional requirements that may not be applicable to existing water rights. For example, SIUR permits may be subject to water storage and forbearance actions that promote instream environmental needs. Last, on each water right filing for all surface water diversions, there is now a box to indicate whether the water supply is used for cannabis cultivation. The resulting regulatory requirements on existing water diversions – including diversions that are permitted to a wholesale entity like NID but delivered to end users through contracts – is not fully understood.

For purposes of this supply analysis, we analyze the legal and policy implications to water supplies that could be used to meet cannabis cultivation demands. Where it is unclear, we assume that the water can be used to cultivate cannabis so that the environmental impacts associated with water diversions can be better ascertained.

Groundwater

SWRCB's Policy related to groundwater addresses the interface between groundwater pumping and impacts to surface water sources. Specifically, the SWRCB Policy states that the SWRCB:

may require a forbearance period or other measures for cannabis groundwater diversions in areas where such restrictions are necessary to protect instream flows. Such areas may include watersheds with: high surface water-groundwater connectivity; large numbers of cannabis groundwater diversions; and/or groundwater diversions in close proximity to streams.

This additional regulatory layer on groundwater development and use may restrict groundwater users from using groundwater for cannabis cultivation when certain technical conditions are observed. Such conditions may include maintaining instream flow levels and reducing hydrological gradients due to groundwater pumping. In short, the SWRCB has reserved its authority to regulate groundwater pumping under certain hydrological conditions. For purposes of this analysis, however, we assume that groundwater pumping for cannabis cultivation may continue under the existing platform of rules so that the environmental impacts associated with groundwater pumping may be ascertained.

3.2 Nevada County Water Supply Overview

Surface water supplies in Nevada County are derived from surface water and groundwater assets. Surface waters are generally split by the Sierra Divide that separates waters flowing into watersheds on the western side of the Sierra-Nevada Mountains and those that flow into the eastern drainages. On the western slopes of the Sierra Nevada Mountains in Nevada County, the Yuba River, Bear River, and other smaller creeks and streams drain the mountains. On the eastern side of the Sierras in Nevada County, the Truckee River watershed (including Prosser Creek) is the primary drainage.

Groundwater supplies in Nevada County have two primary characteristics. The groundwater supplies on the western side of the Sierra Divide are generally derived from fractured rock aquifers. Fractured rock aquifers are distinguishable from alluvial aquifers in that water in fractured rock aquifers store water in fissures, cracks, joints and faults rather than unconsolidated materials (like gravel). There is little information on the nature and extent of the fractured rock aquifers in Nevada County on the western side of the Sierras so aquifer yields are largely unknown. There are limited smaller alluvial groundwater basins on the western slope but they are not well mapped and identified. On the eastern side of the Sierra Divide, the Martis Valley is a well-documented groundwater basin that has technical and management information that informs groundwater extraction decisions. Other fractured rock groundwater areas may exist in the eastern portion of the County but are also unmapped and unmeasured.

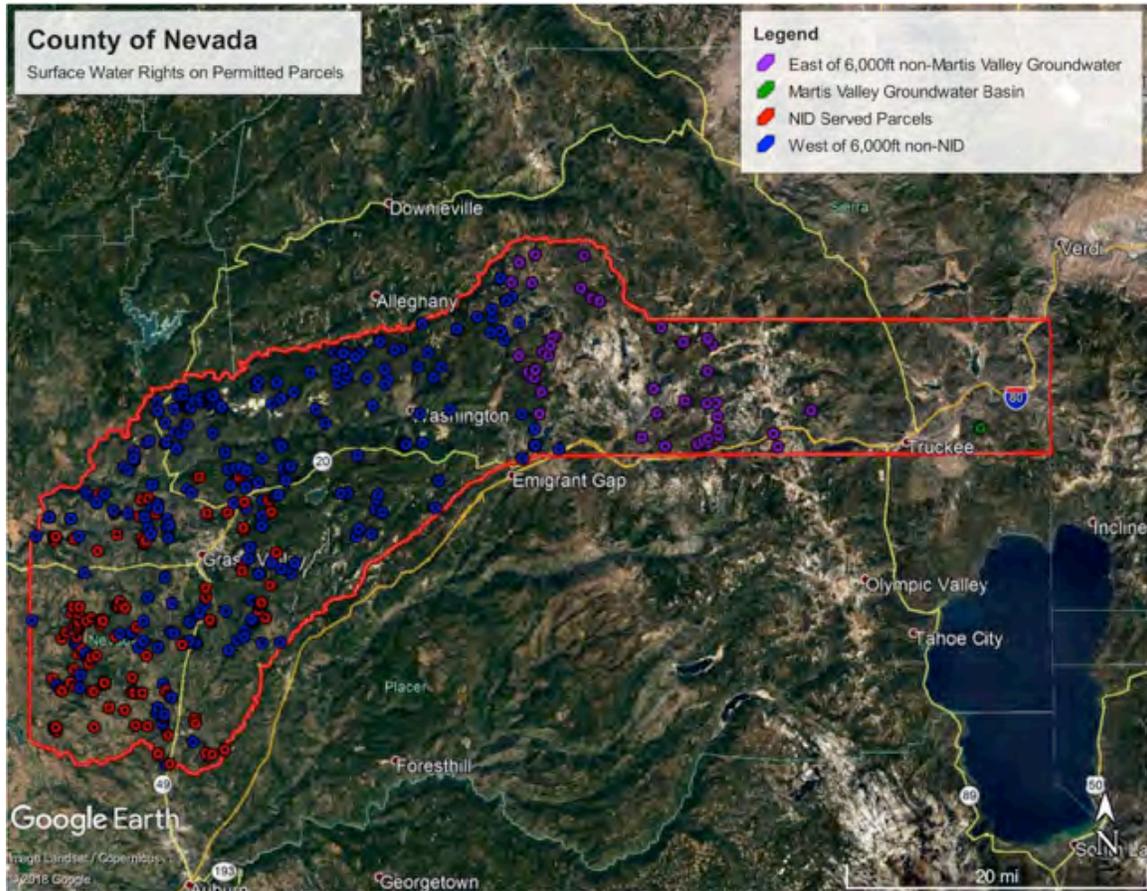
3.2.1 Distribution of Surface Water Rights

There are 696 recorded surface water rights (or claims of right) in Nevada County of which 482 lie within a parcel that may be allowed to cultivate cannabis by the draft Ordinance.¹⁹ These surface water rights may have numerous consumptive and non-consumptive uses, only some of which would apply to the cannabis cultivation. As

¹⁹ Surface Diversion data obtained from <http://waterightsmaps.waterboards.ca.gov/viewer/Resources/Images/eWRIMS/download.htm> accessed November 2018

described in **Section 3.1**, these water rights may be subject to numerous specific nuances that govern each right’s availability, distribution, and use. **Figure 3-2** below shows the location of all 482 recorded surface water rights in Nevada County that fall onto allowed parcels.

Figure 3-2 - Nevada County Recorded Surface Water Rights



3.2.2 Distribution of Groundwater Wells

Groundwater conditions in the majority of Nevada County are not well understood, with the exception of the Martis Valley. The fractured rock aquifers provide water supplies for irrigation and residential use but are largely unexplored and unmapped. There are 19,357 registered wells in Nevada County on parcels where permitted cannabis cultivation could occur under the draft Ordinance.²⁰ It is useful to consider this figure as

²⁰ Well data from Pauloo, Rich (2018, April 30). An Exploratory Data Analysis of California’s Well Completion Reports. Retrieved from https://richpauloo.github.io/oswcr_1.html in November 2018

a guidance number because some of these wells may no longer be in use while other wells may exist that are not registered and, still other wells may not be registered in the correct location.

3.3 Water Supplies in the Four Land Use Zones

The purposes of this section are to describe the various water supplies located in each identified zone and provide context for these water supplies that could be used for cannabis production. The section does not speculate on whether or not the identified supplies will be used for cannabis production.

3.3.1 Area 1 - NID Zone

NID is by far the largest and most organized water system in Nevada County. NID has numerous water rights and serves a large portion of Nevada County as well as some areas in Placer County. NID supplies irrigation, wholesale, and retail water to its customers. Agricultural water use accounts for nearly 90 percent of the total demand on NID water supply. NID's mountain watersheds cover 70,000 acres and include the upper portions of the Middle Yuba River above Milton Diversion, Canyon Creek above Bowman Reservoir, and Deer Creek.

NID's water supplies consist of a variety of water rights and contracts. Specifically, NID has numerous pre-1914 appropriative water rights to waters in the Yuba River, Bear River and Deer Creek watersheds as well as post-1914 appropriative water rights to waters in the same watersheds. Collectively, these appropriative water rights allow for water diversions and collections to storage approximating 450,000 acre-feet of water each year. In addition to these rights, NID has a water supply contract with Pacific Gas & Electric Company for as much as 54,000 acre-feet of water as well as riparian rights that can be used for riparian purposes.²¹

NID Watershed Runoff Supplies

Nevada Irrigation District holds 25 pre-1914 appropriative water rights (pre-1914 rights) to the waters of the Yuba River, Bear River and Deer Creek watersheds. NID also holds 28 post-1914 appropriative water rights to the waters of the Yuba River, Bear River, and Deer Creek watersheds. As noted in **Section 3.1.2**, pre-1914 appropriative rights are not subject to SWRCB permitting jurisdiction and are senior in priority while post-1914 appropriative water rights are subject to SWRCB jurisdiction and are junior in priority. All of the rights generally identify a point of diversion, purpose(s) of use, and place of use in order to assure other users about the availability of their water supplies.

²¹ Nevada Irrigation District Draft 2015 Urban Water Management Plan.

Some of NID’s pre-1914 and post-1914 appropriative water right assets are for power production purposes. This non-consumptive use of water essentially allows for the diversion and storage of water so that releases can be made for power generation purposes through surface water reservoirs. Non-consumptive water rights are relevant to this analysis only in that they determine the amount of water that can be held in storage and released for consumptive purposes within and outside of NID’s service area.

Collectively, NID refers to all of its appropriative water rights as “watershed runoff.”²² Watershed runoff is NID’s primary water supply. The amount of watershed runoff depends on the annual snowpack and the rate of snowmelt. In 2015, the total runoff available to NID was 77,378 acre-feet while in wet years watershed runoff has neared 470,000 acre-feet. Average runoff is approximately 221,500 acre-feet per year.

NID Carryover Storage

NID operates a system of surface water storage reservoirs directly related to its appropriative water rights. The nine reservoirs, with a combined storage capacity of 279,985 acre-feet include: Jackson Meadows, Bowman, Jackson Lake, Sawmill, Faucherie, French, Rollins, Scotts Flat, and Combie. **Table 3-1** shows the NID reservoirs and their storage capacity.

Table 3-1 – Water Supply Reservoirs

Reservoir	Capacity, ac-ft
Jackson Meadows	69,205
Bowman	68,510
Jackson Lake	1,330
Sawmill	3,030
Faucherie	3,980
French	13,840
Rollins	65,988
Scotts Flat	48,547
Combie	5,555
Total Capacity	279,985

NID holds its total carryover storage in its reservoir system to not less than 78,000 acre-feet annually. NID’s carryover storage average is 129,400 acre-feet per year.

²² Nevada Irrigation District Draft 2015 Urban Water Management Plan.

NID Pacific Gas & Electric Contract

NID and PG&E have water supplies that commingle in the context of both entities power production systems in the Yuba-Bear River watershed. PG&E has agreed to supply NID as much as 54,361 acre-feet of water per year from its water rights water in the Yuba-Bear system. This supply, however, is underutilized because there are significant conveyance restrictions in the delivery system. Specifically, conveyance restrictions reduce the available supply to approximately 8,000 acre-feet per year.

NID Water Supply Summary

NID anticipates that it will have approximately 477,000 acre-feet of water available in normal years and approximately 359,000 acre-feet available in dry years for its wholesale, retail, and raw water deliveries. **Table 3-2** below shows NID’s normal year, single dry year, and multiple dry year supply reliability forecast. The large volume of NID supplies indicates that although there is variability in dry years, there are ample supplies available to meet the various needs in this part of Nevada County – including potential additional cannabis cultivation.

Table 3-2 – NID Available Water Supplies

Supply	Average/ Normal af/yr	Single Dry af/yr	Multiple Dry Water Years		
			Year 1 af/yr	Year 2 af/yr	Year 3 af/yr
Watershed Runoff	221,500	221,500	221,500	221,500	221,500
Carryover Storage	201,985	129,400	129,400	129,400	129,400
PG&E Contract	54,361	8,000	8,000	8,000	8,000
Total	477,846	358,900	358,900	358,900	358,900

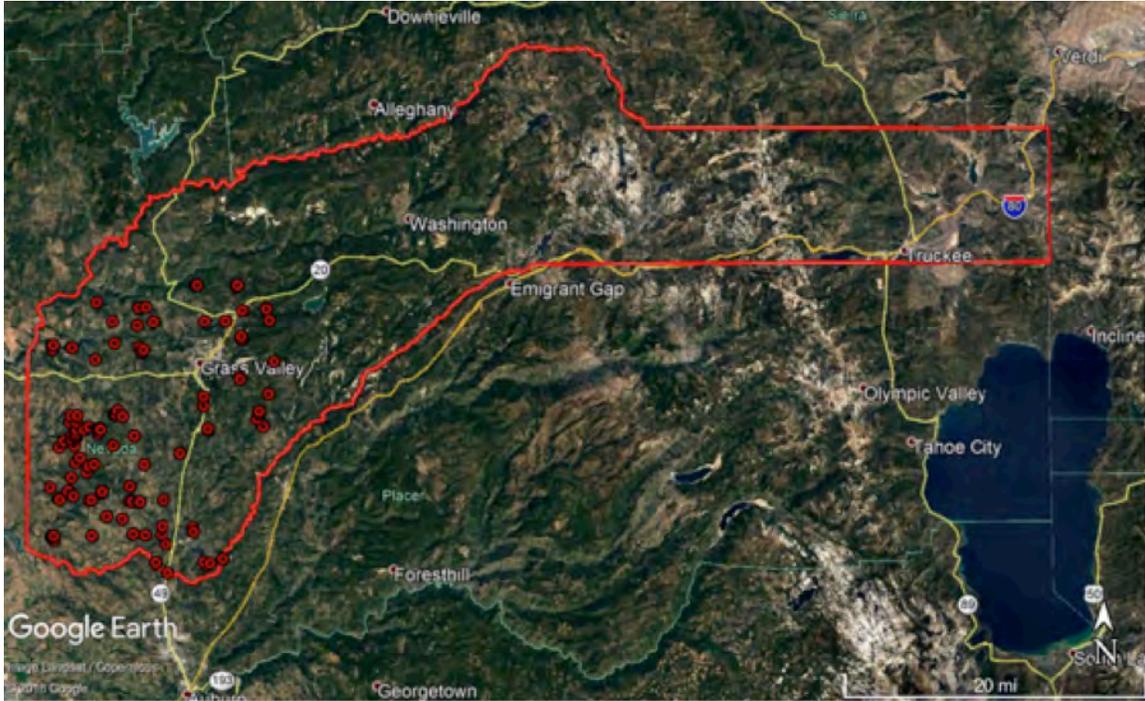
Additional Water Supplies in the NID Zone

Groundwater in the Nevada Irrigation District Zone is another important source of water. As described in **Section 3.2**, the groundwater supplies in this area are derived from fractured rock aquifers that are not well understood. Specifically, in the NID area, DWR records indicate approximately 6,000 wells that provide water for various uses.²³ The full capacity of these wells is not well understood. Nevertheless, these wells could be used to provide water to other entities.

²³ Well data from Pauloo, Rich (2018, April 30). An Exploratory Data Analysis of California’s Well Completion Reports. Retrieved from https://richpauloo.github.io/oswcr_1.html in November 2018

NID holds 53 of the 138 water rights to surface water supplies in the NID zone. Another 85 surface water rights exist in this area that are separated from NID’s system. All 138 water rights are depicted on the map shown in **Figure 3-3**.

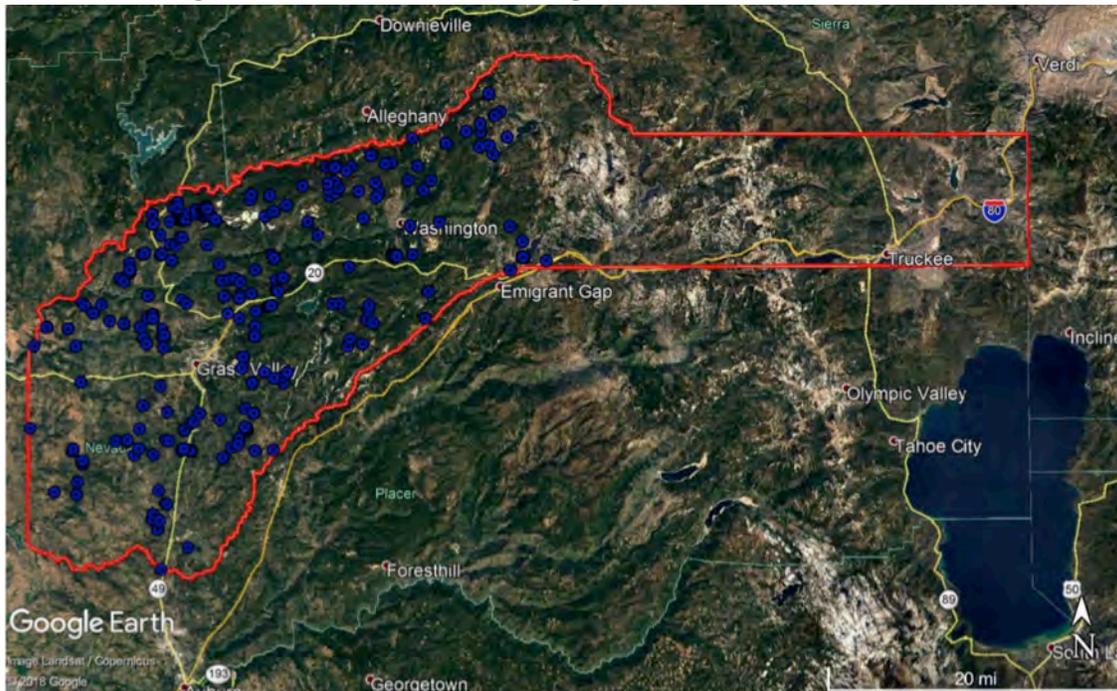
Figure 3-3 - Surface Water Rights in NID Zone



3.3.2 Areas 2 and 3 - Below 6,000 Feet (no NID) and Above 6,000 Feet (no Martis Valley)

Although NID is the most prolific water supplier in Nevada County, there are numerous other surface water diversions that serve end users in the County. In the area below 6,000 feet that does not include the Nevada Irrigation District service area, there are 292 surface water rights. This area is shown in **Figure 3-4**.

Figure 3-4 - Surface Water Rights Below 6,000 Feet (no NID)

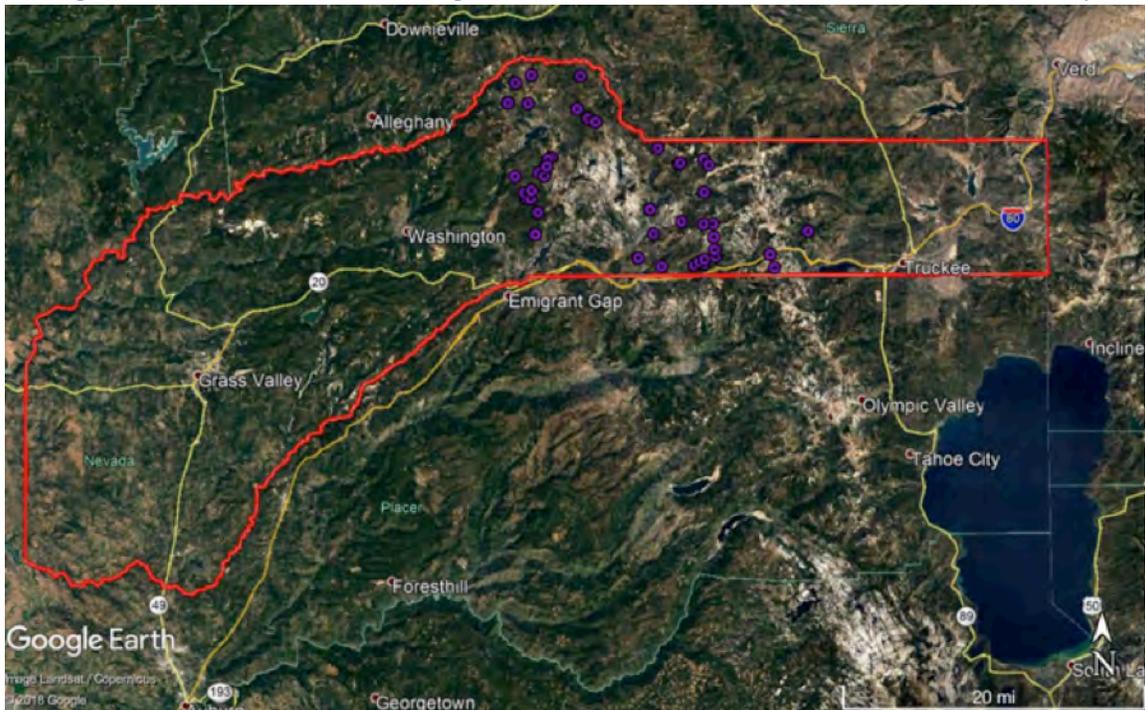


Groundwater use in this area is also relatively large. There are 13,042 existing wells in this area.²⁴ The volume of use for these wells is not fully understood.

In the area above 6,000 feet that does not include Nevada Irrigation District or the Martis Valley Groundwater Management Area, there are 51 surface water rights that could be used for cannabis cultivation. This area is shown in **Figure 3-5**.

²⁴ Well data from Pauloo, Rich (2018, April 30). An Exploratory Data Analysis of California's Well Completion Reports. Retrieved from https://richpauloo.github.io/oswcr_1.html in November 2018

Figure 3-5 - Surface Water Rights Above 6,000 Feet (no NID or Martis Valley)



Groundwater use in this area is insignificant compared to the area below 6,000 feet. There are 228 wells recorded by DWR in this area that may be used for cannabis cultivation.²⁵

3.3.3 Area 4 - Martis Valley Groundwater Management Area

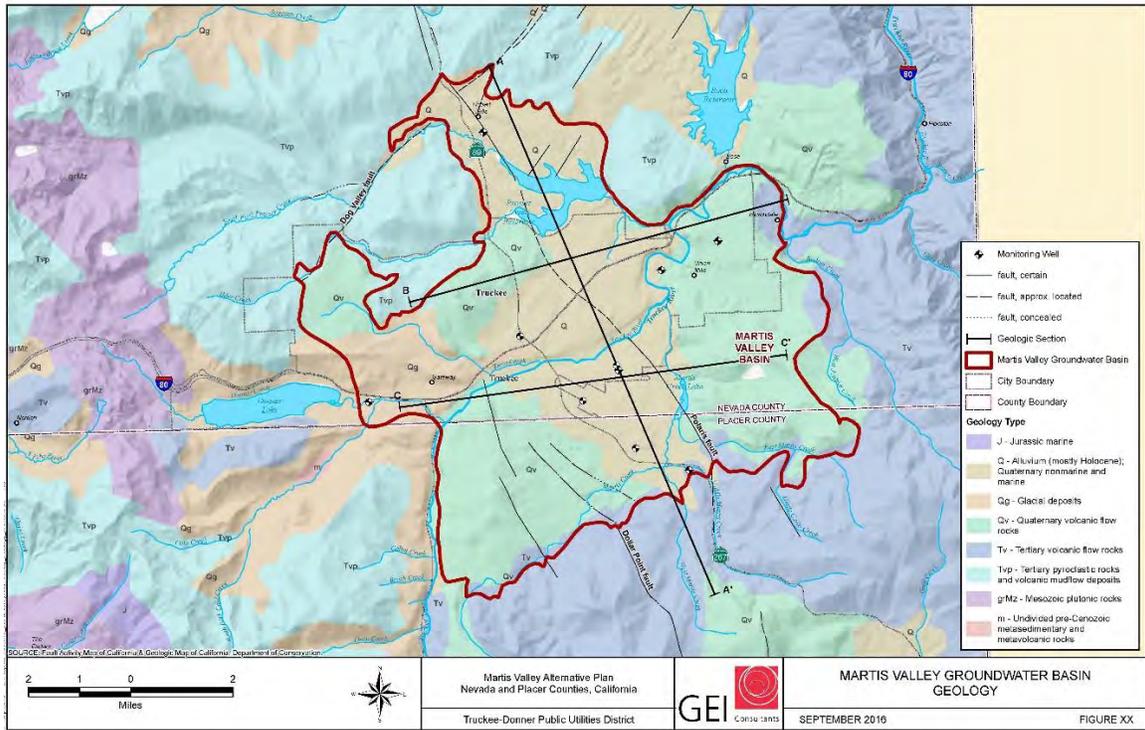
The Martis Valley Groundwater Management Area Zone is an area in Nevada County that is defined essentially by the groundwater basin area that lies within Nevada County. The Martis Valley Groundwater Basin is described in DWR Bulletin 118 as basin 6-67.²⁶ The groundwater basin lies on the eastern side of the Sierra Divide and encompasses lands in both Nevada County and Placer County. The basin is filled with coarse alluvial sediment on top of bedrock that provides the water bearing formations.²⁷ The Martis Valley contains 87 groundwater wells that are registered with the California Department of Water Resources. Although there is a single surface water right listed in the Martis Valley, surface water system operations are governed by the Truckee River Operating Agreement described in **Section 3.1.3**. **Figure 3-6** depicts the Martis Valley Groundwater Management Area as shown in the Martis Valley Groundwater Basin Alternative SGMA Submittal.

²⁵ Well data from Pauloo, Rich (2018, April 30). An Exploratory Data Analysis of California's Well Completion Reports. Retrieved from https://richpauloo.github.io/oswcr_1.html in November 2018

²⁶ <https://water.ca.gov/LegacyFiles/groundwater/bulletin118/basindescriptions/6-67.pdf>

²⁷ Martis Valley Groundwater Basin Alternative SGMA Submittal at 9

Figure 3-6 – Martis Valley Groundwater Management Area



4. IMPACTS ANALYSIS OF DEMANDS ON SUPPLIES

As detailed in **Section 2**, this Water Supply Evaluation estimates water demands and water supplies for the Ordinance in four different areas chosen to present key differences in supply type, management boundary, and general climate. The integration of the demands with the available supplies is analyzed in this section.

4.1 Area 1 - NID Service Area

As documented in **Section 2.3.1**, the maximum additional water demands in Area 1 would be 8,222.30 acre-feet per year. Of this, approximately 67.86 acre-feet would be residential demand and 8,154.44 would be commercial demand. As noted in **Section 2**, the baseline assumption for this analysis is that all of the potential demands associated with cannabis cultivation would be considered “additive” to the existing demands placed on water supplies in the systems. However, even if the demands are additive, the limitations on supply availability may reduce the amount of demand that can be satisfied with available water resources. For instance, if 500 acre-feet of demand must be satisfied with a water supply, the legal limitations on an identified water supply may prevent an identified supply from being used to satisfy the identified demand. Thus, this WSE assumes that there would be an additional 8,222.30 acre-feet of demand in the system in the NID Area and then separately addresses how water supplies in the NID Service Area may become available to meet those demands.

As noted in **Section 3.3.1**, the additional demands in the NID Area could be satisfied from several sources – surface water supplied through NID contracts, surface water rights derived from the natural flow of the surface streams, and groundwater sourced either through fractured rock aquifers or small alluvial aquifers. In all likelihood, the water supplies needed to meet the demands would be met from a combination of sources in this area.

4.1.1 Surface Water Supplies

If the water supplies for the additional demands are met entirely from unallocated NID contract supplies, it is likely that the impacts to existing water users would be minimal. In this instance, the addition of the new demands would equate to approximately 2 percent addition to NID’s water use in dry years. Specifically, NID has 358,900 acre-feet available in the worst-case scenario dry years (and this number does not include full use of NID’s PG&E contract) and the additional 8,222.30 acre-feet is subsequently minimal. The delivery of these supplies would be fully governed by the contract terms in NID’s delivery agreements and subject to drought-related reductions relative to the terms of those agreements. As such, the determination of impacts may not be significant to the

existing NID water users or to the County-wide water supply system from additional water uses derived from NID's water assets.

If the water supply for the additional demands is met entirely from surface water systems in the region that are separate from NID's system, the supplies would be determined by the legal requirements governing California's surface water rights. For new surface water appropriations from natural stream channels, the new diversions would require a full hydrological analysis of the identified watershed that shows that water is available for diversion and use for cannabis cultivation. The hydrological analysis is wholly governed by the State Water Resources Control Board in allocating surface water supplies in California and generally limits water diversions to higher flow months – the winter and spring runoff periods. Moreover, construction of diversion facilities would be subject to Fish & Game Code requirements related to streambed alteration permits. For a normal water right application, the primary SWRCB finding would be that a water right permit may be issued so long as there are affirmative findings that (a) there is sufficient water in the system based upon the hydrological analysis to meet the applicant's needs; and (2) there will be no harm to other legal users of water or the environment by issuing a water permit.

The SWRCB, however, has an additional regulatory layer for issuing water rights permits for cannabis cultivation. The SWRCB's 2017 Cannabis Cultivation Policy described in **Section 3.1.3** would be implicated with a new filing for a water right for cannabis cultivation. The determination of how that policy would be applied to a new water right permit is governed by SWRCB but the Policy generally adds further diversion curtailments, storage requirements, and injury protections for environmental purposes (like fish propagation). Thus, applying unappropriated water for cannabis cultivation would require an affirmative finding that the new use would not only not injure other legal users of water but it must also fully comply with SWRCB's Cannabis Cultivation Policy as they relate to water rights.

Similarly, applying existing SWRCB issued water rights to new cannabis cultivation would require following the rules governing identified water rights and the Cannabis Cultivation Policy. In this instance, an existing appropriative water right would have had to be continually used since its inception in order to be available for use to irrigate cannabis. As noted in **Section 3.1.1**, non-use of the entire right or even a portion of the right may subject appropriative rights to forfeiture or abandonment. For existing surface water rights, the permitted methods of use would need to be maintained in accordance with the original water right permit terms in order to avoid impacts to other water users. Thus, the primary consideration would be whether the existing water rights would continue to be used as they had historically been used or whether changes may occur in how the water under the permit would be used for the cannabis cultivation. Each of these changes in use, if any, would need to be examined on a case-by-case basis and approved

by the SWRCB. As such, simply converting an existing water right for use in cannabis cultivation – especially year-round cannabis cultivation – may prove problematic under the terms of existing water rights terms and limitations.

Other surface water rights – pre-14 appropriative rights and riparian rights – may be used to satisfy the cannabis cultivation demands. Just like the SWRCB post-1914 appropriative rights, the determination of a pre-1914 appropriative right availability depends upon its continued use since it was created. Thus, the water supply that would be used for cannabis cultivation would have had to be used for other forms of water diversion and use in the past in order to be available for the new cannabis cultivation. The primary impact assessment would address whether the change in use for cannabis cultivation somehow deviates from the historical use that was allowed under the water right. Like the existing SWRCB appropriative right noted above, this question would require case-by-case examination in order to discern actual injury to other legal users of water.

As noted in **Section 3.1.1**, riparian water rights may lie dormant with a parcel of land until activated for a particular use. In other words, unlike appropriative water rights, riparian rights are not abandoned or forfeited if they are not used. Moreover, the historical use of a riparian right is not necessarily indicative of the future uses of water available under that right. For instance, a riparian water supply may be diverted year round if the use of the water on the riparian property is reasonable and for a beneficial purpose. Any additional water use associated with a riparian water right that was not previously used on a water system (or could be changed in the way an existing right is used) could impact the availability of water supply to other junior water users on a system.

4.1.2 Groundwater Supplies

Groundwater supplies in Area 1 are derived from unmapped fractured rock groundwater systems or smaller alluvial basins. Determining the overall impacts of the additional demand on this system – if all 8,222.30 were added to the overall groundwater extraction – is speculative. The location of the groundwater extraction in the context of a fractured rock aquifer or a small alluvial aquifer must be considered in the context of other groundwater users accessing the same source. The unique hydrogeology of each aquifer system must be coupled with the legal overlay to determine the context for assessing impacts. As such, each impact assessment related to additional groundwater extraction must consider both the legal and technical aspects of the tapped groundwater system.

Despite this summation, the guiding rules for groundwater use could limit supplies that are available for cannabis irrigation. For example, the majority of groundwater supplies in the NID Area are in fractured rock groundwater systems. This means specifically, that

in order for an overlying water user to utilize groundwater from a fractured rock groundwater system under the premise of an “overlying groundwater right”, the fracture must exist on the property of the extractor. Fractured rock systems can be difficult to trace and sometimes have limited yield based upon underground flow conditions. In the event that a groundwater extractor is able to utilize groundwater from an aquifer attached to the overlying land, then the right to use that water is correlative (shared) among all water users connected to that system. In this case, impacts may occur to other overlying users on the groundwater system. If the supply of water on an existing property begins to decline because of an overlying users new groundwater extractions, there is no remedy other than to share in reduced yield. Neither the County nor the State has governing rules that would give one overlying groundwater user an advantage over a new overlying groundwater user for cannabis cultivation purposes.

In the event that a groundwater user seeks to import groundwater from a distant parcel onto the parcel of property where the cannabis is to be grown, the rules governing that system are very different. As noted in **Section 3.1.2**, a groundwater appropriator must affirmatively demonstrate that there is surplus water in an aquifer system before the groundwater appropriator may divert water. The overlying water user and other senior groundwater appropriators may stop a new groundwater appropriation if surplus water conditions are not adequately proven. As such, using groundwater through a groundwater appropriation may limit the amount and extent of cannabis cultivation in a particular location – especially where the groundwater supplies are derived from fractured rock systems.

4.2 Areas 2 and 3 - Below 6,000 Feet (no NID) and Above 6,000 Feet (no Martis Valley)

As documented in **Sections 2.3.2** and **2.3.3**, the maximum additional water demands in Area 2 would be 7,468.12 acre-feet per year and in Area 3 1,755.54 acre-feet per year. Of this, approximately 37.91 acre-feet would be residential demand and 9,185.73 acre-feet would be commercial demand. As noted in **Section 2**, the baseline assumption for this analysis is that all of the potential demands associated with cannabis cultivation would be considered “additive” to the existing demands placed on water supplies in the systems. Thus, this WSE assumes that there would be an additional 9,223.66 acre-foot demand on the water supplies in the Areas 2 and 3.

As noted in **Section 3.3**, the additional demands in these areas could be satisfied from two sources – surface water rights derived from the natural flow of the surface streams and groundwater sourced either through fractured rock aquifers or small alluvial aquifers. There are no known contract water supplies available in this area. In all likelihood, the water supplies would be met from a combination of surface water and groundwater sources in these areas.

4.2.1 Surface Water Supplies

If the water supplies for the additional demands are met entirely from surface water systems in the region, the supplies would be determined by the legal requirements governing California's surface water systems. For new surface water appropriations from natural stream channels, the new diversions would require a full hydrological analysis of the identified watershed that shows that water is available for diversion and use for cannabis cultivation. The hydrological analysis is wholly governed by the State Water Resources Control Board in allocating surface water supplies in California. Moreover, construction of diversion facilities would be subject to Fish & Game Code requirements related to streambed alteration permits. For a normal water right application, the primary SWRCB finding would be that a water right permit may be issued so long as there is an affirmative finding that there will be no harm to other legal users of water or the environment.

As noted above, the SWRCB, however, has an additional regulatory layer for issuing water rights permits for cannabis cultivation. The SWRCB's 2017 Cannabis Cultivation Policy described in **Section 3.1.3** would be implicated with a new filing for a water right for cannabis cultivation. The determination of how that policy would be applied to a new water right permit is governed by SWRCB but adds further diversion curtailments, storage requirements, and injury protections for environmental purposes (like fish propagation). Thus, applying unappropriated water for cannabis cultivation would require an affirmative finding that the new use would not injure other legal users of water and fully comply with SWRCB's Cannabis Cultivation Policy as they relate to water rights.

Similarly, applying existing SWRCB issued water rights to new cannabis cultivation would require following the rules governing identified water rights and the Cannabis Cultivation Policy. In this instance, an existing appropriative water right would have had to be continually used since its inception in order to be available for use to irrigate cannabis. As noted in **Section 3.1.1**, non-use may subject appropriative rights to forfeiture or abandonment. For existing surface water rights, the permitted methods of use would need to be maintained in accordance with the original water right permit terms in order to avoid impacts to other water users. Thus, the primary consideration would be whether the existing water rights would continue to be used as they had historically been used or whether changes may occur in how the water under the permit would be used for the cannabis cultivation. Each of these changes in use, if any, would need to be examined on a case-by-case basis and approved by the SWRCB. As such, simply converting an existing water right for use in cannabis cultivation – especially year-round cannabis cultivation – may prove problematic under the terms of existing water rights.

Other surface water rights – pre-14 appropriative rights and riparian rights – may be used to satisfy the cannabis cultivation demands. Just like the SWRCB post-1914 appropriative rights, the determination of a pre-1914 appropriative right availability depends upon its continued use since it was created. Thus, the water supply that would be used for cannabis cultivation would have had to be used for other forms of water diversion and use in the past in order to be available for the new cannabis cultivation. The primary impact assessment would address whether the change in use for cannabis cultivation somehow deviates from the historical use that was allowed under the water right. Like the existing SWRCB appropriative right noted above, this question would require case-by-case examination in order to discern actual injury to other legal users of water.

As noted in **Section 3.1.1**, riparian water rights may lie dormant with a parcel of land until activated for a particular use. In other words, unlike appropriative water rights, riparian rights are not abandoned or forfeited if they are not used. Moreover, the historical use of a riparian right is not necessarily indicative of the future uses of water available under that right. For instance, a riparian water supply may be diverted year round if the use of the water on the riparian property is reasonable and for a beneficial purpose. Any additional water use associated with a riparian water right that was not previously used on a water system (or could be changed in the way an existing right is used) could impact the availability of water supply to other junior water users on a system.

Importantly, the lands in Area 3 would also be subject to the Truckee River Operating Agreement that is described in **Section 3.1.3**. Under the TROA, surface water diversions on the Truckee River drainage are subject to a number of regulatory criteria that could be used to prevent a new diversion or changed diversion. As such, reviewing the proposed new water supply in the context of the TROA would be required to determine additional supply availability.

4.2.2 Groundwater Supplies

Groundwater supplies in Areas 2 and 3 are derived from unmapped fractured rock groundwater systems or smaller alluvial basins. Determining the overall impacts of the additional demand on this system – if all 9,223.66 were added to the overall groundwater extraction – is speculative. The location of the groundwater extraction in the context of a fractured rock aquifer or a small alluvial aquifer must be considered in the context of other groundwater users accessing the same source. The unique hydrogeology of each aquifer system must be coupled with the legal overlay to determine the context for assessing impacts. As such, each impact assessment related to additional groundwater extraction must consider both the legal and technical aspects of the tapped groundwater system.

Like Area 1, despite this summation, the guiding rules for groundwater use could limit supplies that are available for cannabis irrigation. For example, the majority of groundwater supplies in Areas 2 and 3 are in fractured rock groundwater systems. This means specifically, that in order for an overlying water user to utilize groundwater from a fractured rock groundwater system under the premise of an “overlying groundwater right”, the fracture must exist on the property of the extractor. Fractured rock systems can be difficult to trace and sometimes have limited yield based upon underground flow conditions. In the event that a groundwater extractor is able to utilize groundwater from an aquifer attached to the overlying land, then the right to use that water is correlative (shared) among all water users connected to that system. If the supply of water on an existing property begins to decline because of an overlying users new groundwater extractions, there is no remedy other than to share in reduced yield. Neither the County nor the State has governing rules that would give one overlying groundwater user an advantage over a new overlying groundwater user.

In the event that a groundwater user seeks to import water from a distant parcel onto the parcel of property where the cannabis is to be grown, the rules governing that system are very different. As noted in **Section 3.1.2**, a groundwater appropriator must affirmatively demonstrate that there is surplus water in an aquifer system before the groundwater appropriator may divert water. The overlying water user and other senior groundwater appropriators may stop a new groundwater appropriation if surplus water conditions are not adequately proven. As such, using groundwater through a groundwater appropriation may limit the amount and extent of cannabis cultivation in a particular location – especially where the groundwater supplies are derived from fractured rock systems.

4.3 Area 4 - Martis Valley Groundwater Basin

Area 4 encompasses the portion of the Martis Valley Groundwater Basin located in Nevada County. The Martis Valley Area is governed by two important water management programs – the Truckee River Operating Agreement (TROA) and the Martis Valley Groundwater Basin Groundwater Management Plan. The Martis Valley Area has also established a Groundwater Sustainability Agency (GSA) under the Sustainable Groundwater Management Act and will produce a Groundwater Sustainability Plan (GSP) by the statutory deadline in June of 2022. The Martis Valley GSP will be the governing document for managing groundwater in the entire Martis Valley groundwater basin in the future.

The potential additional water demands in the Martis Valley area are minimal. The total additional residential and commercial demands are 310.26 acre-feet per year. This total demand falls within the sustainable parameters as described in the MVGMP.

4.3.1 Surface Water Supplies

As described in **Section 3.1.3**, the TROA is a broad settlement agreement that addresses all surface water supplies that impact the Truckee River from its origination point at Lake Tahoe to its terminus point in Pyramid Lake. As such, TROA governs the vast majority of surface water supplies in Nevada County on the eastern side of the Sierra Divide. Because of this agreement, there is extremely limited ability to appropriate new water supplies in the Truckee River watershed. As such, any diversion and use of water from surface water systems that are covered by the TROA are subject to the requirements of TROA. And unless the terms of TROA are violated by the diversion and use of water, the stipulated settlement governs the impacts associated with water use.

4.3.2 Groundwater Supplies

In April 2013, a number of local agencies that share groundwater resources from the Martis Valley Groundwater Basin adopted the Martis Valley Groundwater Management Plan (MVGMP). This plan governs the use of groundwater in the portion of the Martis Valley Groundwater Basin that lies within Nevada County. And although the plan is not a regulatory instrument, it is a collaborative effort to manage the groundwater resources among the participating agencies. It is highly likely that the information contained in the Martis Valley Groundwater Management Plan will become the basis for the GSP required by the SGMA.

The MVGMP has formal implementation actions that support basin management objectives. These high-level actions are:

- Manage Groundwater to Maintain Established and Planned Uses
- Manage Groundwater within the Provisions of the TROA
- Collaborate and Cooperate with Groundwater Users and Stakeholders in the Martis Valley Groundwater Basin
- Protect Groundwater Quantity and Quality
- Pursue and use the best available science and technology to inform the decision-making process
- Consider the environment and participate in the stewardship of groundwater resources

The coordination between the TROA and the MVGMP provide the implementing documents for sustainable groundwater basin management. And although the MVGMP may not have regulatory authority to prohibit new well drilling by individuals or districts, the TROA has injunctive authority where groundwater extraction imperils surface water

systems.²⁸ The interconnectivity between the surface water and groundwater systems in the Martis Valley is being analyzed.

The estimated total demand in 2013 was 9,341 acre-feet per year.²⁹ Groundwater recharge rates were most recently estimated to be approximately 35,000 acre-feet per year. As such, the recharge rates for the entire basin exceed the total demands. Adding an additional 310.20 acre-feet of demand is within the sustainable parameters described in the MVGMP.

4.4 Summary Water Table

This section provides a summary table with the overall demands in each identified area and the potential for water use under various water supplies and rights.

Table 4-1 – Impacts of Water Demands and Available Supplies

Area	Demand Impacts	Contract Supply	Surface Water Rights	Groundwater Aquifer	Managed Aquifer
Area 1 NID Area	8222.30 AFY	Yes	Yes	Yes	No
Area 2 West 6000 feet	7468.12 AFY	No	Yes	Yes	No
Area 3 East 6000 Feet	1755.54 AFY	No	Limited	Yes	No
Area 4 Martis Valley	310.26 AFY	No	Limited	Yes	Yes

²⁸ See MVGMP at 2-22.

²⁹ MVGMP at 2-28.

5. IMPACTS MITIGATION

This Water Supply Evaluation provides an analysis of the additional water demands attributable to the draft Nevada County Cannabis Ordinance that is pending adoption at the County. The WSE concludes that under the most conservative assessment, the County will experience an increase in water demand of 17,756 acre-feet per year. This conclusion results from further assumptions that all lands in the County that are permitted to cultivate cannabis do cultivate cannabis and that the cannabis cultivation proceeds at the most rigorous production levels.

The analysis also shows that the water supplies that are available to meet the increased demands could be available but that they are subject to significant legal and regulatory issues. In other words, although there are instances where the cannabis cultivation demands could exist based upon the land use designations, the availability of water to meet those demands may not be assessed without a case-by-case assessment of the methodology to acquire supply and the legal and regulatory rules that govern how that supply could be made available. In the most extreme conclusion, all demands would be met with overlying groundwater supplies or riparian surface water supplies that could only be regulated by the correlative nature of those rights as they apply to other overlying and riparian users.

As such, this section identifies actions that could be implemented by Nevada County to mitigate against potential impacts associated with acquisition of water supplies to meet cannabis cultivation demands.

5.1 Affirmative Demonstration of Water Supply

Cannabis cultivation is an evolving area of water use in California and the information related to the intersection of water demand and water supply is limited. Nevertheless, the County could potentially reduce environmental impacts associated with individual cannabis grows in identified areas in the County by requiring each individual grower to affirmatively demonstrate that:

- (1) an available water supply that could be used to meet the cannabis cultivation demands of a specific grow and
- (2) the use of the identified water supply will not injure any other legal user of water.

Using this two-step approach would ensure that water supplies could be made available to satisfy an individual growers demand while simultaneously not injuring other legal users of water.

5.1.1 Available Water Supply

Making an affirmative determination that a water supply is available for use is a good starting point for connecting the potential individual cannabis grower demands with an identifiable water supply. In this proposed mitigation action, a grower would be required to affirmatively show that an actual water supply is available to meet the grower's cannabis cultivation demands. This showing would require that the grower take several actions.

First, the grower would have to calculate the actual demand attributable to the cannabis cultivation activity. Specifically, the grower would need to fully disclose the cultivation methodology as well as the cropping pattern (i.e. more than one crop per year) in order to accurately assess the need for a water supply.

Second, the grower would be required to identify the source of water that could be made available to meet the calculated cannabis cultivation demand. If the grower sought to use a surface water supply, the grower would be required to affirmatively demonstrate that the water right and/or water contract exist and that the identified supply permits cannabis cultivation. Moreover, the grower would need to demonstrate that under all hydrological circumstances – wet years, normal years, and dry years – the water supply would be available to allow for cannabis cultivation. In the event of a contracted surface water supply with NID, the grower would need to show that the contract terms allowed for water supply deliveries in line cannabis cultivation cropping patterns defined by the grower.

If the grower sought to use a groundwater supply, then the grower would need to demonstrate the basis for the groundwater right – overlying or appropriative – and that the groundwater well could produce sufficient water in wet, normal, and dry years to meet the cultivated cannabis demand. Importantly, a cannabis grower would need to demonstrate that the extent of the groundwater aquifer is known and that the supply could be justified for a particular period of time.

Third, the grower would need to affirmatively demonstrate that the water supply is physically available considering the water needs of not just other water users, but the environment. This determination would require assessing the overall watershed health and the implications of the proposed water use on the environment.

These actions that a potential grower would need to undertake to identify and prove the available water supply would allow the County to avoid unintended impacts from individual growers.

5.1.2 No Injury Determination

Demonstrating that a water supply is available for use for cannabis cultivation only meets half of the requirements usually attributable to changes in water uses under the statewide regulatory rules. “No injury” does not mean that there is “no impact” to other legal users of water, it can simply mean there is “no detrimental impact.” Under California law, no injury is a legally defined term that assesses injury based upon the legal constraints associated with a particular water supply. For instance, as described in **Section 3**, under California law, an overlying groundwater user has the legal right to pump groundwater whether or not that groundwater supply has been historically used. The overlying groundwater user may pump that groundwater even if the pumping of that groundwater would cause another overlying groundwater user’s yield to be reduced. In that instance, both the old overlying user and the new overlying user would need to share in the overall groundwater yield reduction but the old overlying user could not prevent the new overlying user for digging the well and using the water. Moreover, the new overlying user may impact an entire groundwater system – especially in a fractured rock groundwater system – that could impact (not legally injure) numerous water users.

In the proposed “no injury determination” the County could require the new overlying user to demonstrate that there would be “no detrimental impact” to the old overlying user’s water use with the acquisition and use of the new overlying groundwater right. Further, the County could require the user to demonstrate that there would be “no detrimental impact” to other water users on the shared water system – regardless of the source or the underlying water rights. In this way, the determination of injury is removed from the arcane legal principles in California’s water rights system and incorporated into the County’s cannabis cultivation permitting process with a more reasonable definition. This “no injury” determination could apply to all forms of water supplies that may be acquired for cannabis cultivation purposes.

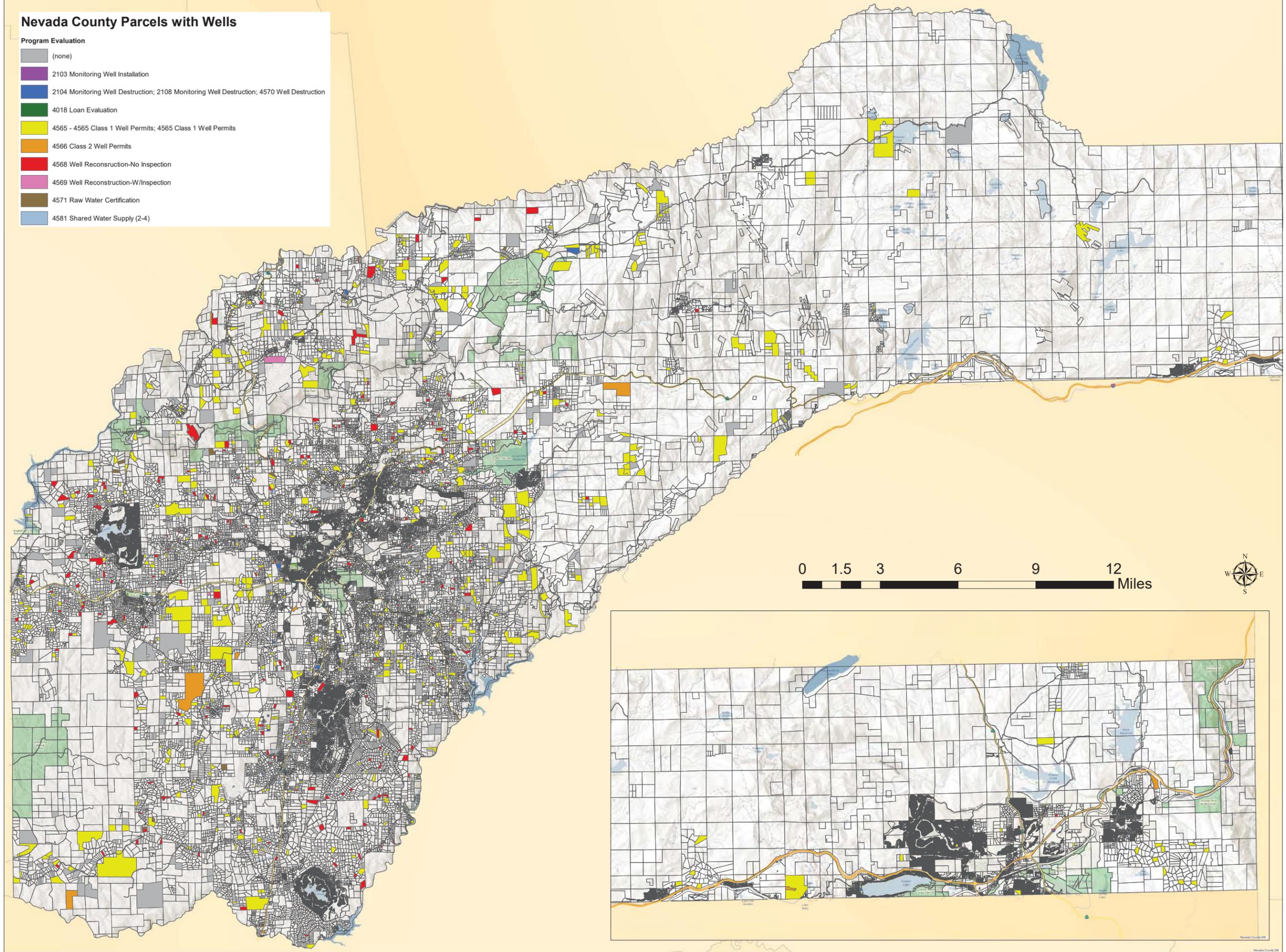
5.2 Demonstrate Compliance with SWRCB Cannabis Cultivation Policy

The County could require each permitted grower to demonstrate that the proposed water supply is consistent with the SWRCB’s Cannabis Cultivation Policy. This action would ensure that the potential cannabis grower would effectuate the essential purposes encompassed in the Policy and provide additional water supply protections to existing water users. For instance, if the grower sought to utilize surface water, consistency with the Policy would require forbearance from diversion during the summer months and water storage construction. In this way, the burden would be on the water users to make sure that the identified water supply and cultivation methods (including wastewater runoff, etc.) are fully aligned with the Policy.

Nevada County Parcels with Wells

Program Evaluation

- (none)
- 2103 Monitoring Well Installation
- 2104 Monitoring Well Destruction; 2108 Monitoring Well Destruction; 4570 Well Destruction
- 4018 Loan Evaluation
- 4565 - 4565 Class 1 Well Permits; 4565 Class 1 Well Permits
- 4566 Class 2 Well Permits
- 4568 Well Reconstruction-No Inspection
- 4569 Well Reconstruction-W/Inspection
- 4571 Raw Water Certification
- 4581 Shared Water Supply (2-4)



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