Centennial Industrial Site

Biological Resources Assessment

Prepared for:
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Report Date: January 2021

Report Preparer: Mr. Greg Matuzak
Greg Matuzak Environmental Consulting LLC

Project Site: Centennial Industrial Site

Project Site Location: SECTION 26, T.16N, R.8E

CENTENNIAL INDUSTRIAL SITE		
Assessor Parcel Number	**Site Address**	**Lot Size (Acres)**
009-550-032	N/A	20,908 SF (0.48 AC)
009-550-037	10344 Centennial Drive	4.47 AC
009-550-038	10350 Centennial Drive	40.1 AC
009-550-039	10344 Centennial Drive	42,668 SF (0.98 AC)
009-550-040	N/A	5,662 SF (0.13 AC)
009-560-036	10350 Centennial Drive	10.25 AC
Centennial Industrial Site - Land Total:		**56.41 AC**

Property Owner / Applicant: Rise Grass Valley, Inc.
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Grass Valley, CA 95945

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Project Summary

The Biological Resources Assessment Report includes the biological results of the background research, reconnaissance-level biological surveys, data analysis, and impact assessment for the Centennial Industrial Site. The key findings of this report include the following:

- A total of 4.97 acres of "waters of the U.S.," including wetlands, and "waters of the State of California" was identified and mapped within the Centennial Site in 2019. The 4.97 acres of wetland-waters includes 4.37 acres of mapped wetlands and 0.60 acres of mapped "other waters of the U.S.," including the main stem of Wolf Creek, as well as several intermittent and ephemeral streams.
- Pine Hill flannelbush (*Fremontodendron decumbens*), a species listed on the federal Endangered Species Act (ESA), has been identified and mapped within the southern portion of the Centennial Site. Sixty individual mature and flowering plants occupy an absolute area of 0.22 acres over approximately 4.5 acres of the Centennial Site.
- Perennial marsh wetlands within the eastern section of the Centennial Site contain potentially suitable habitat for several special-status aquatic wildlife species, including the California State ESA (CESA) listed threatened California black rail (*Laterallus jamaicensis coturiculus*) and the federally ESA listed California red-legged frog (*Rana aurora draytonii*). None of these species have been observed within the Centennial Site and they are considered to have a low potential to occur within the Centennial Site.
- The main stem of Wolf Creek along the northern boundary of the Centennial Site includes a perennial stream and riparian vegetation. The perennial stream contains marginal suitable habitat for the foothill yellow-legged frog (*Rana boylii*), a California State Candidate for listing under CESA. This species has never been observed within the Centennial Site and it is considered to have a low potential to occur within the Centennial Site.
- The Centennial Site contains two (2) unlisted plant species. Neither species is rare nor threatened. The two California Native Plant Society (CNPS) List 4 Species, including the Humboldt lily (*Lilium humboldtii ssp. humboldtii*) and the Sierra brodiaea (*Brodiaea sierra*). A large population with thousands of individual Sierra brodiaea covering almost a quarter of the Centennial Site was mapped during 2019 field surveys and a single occurrence of the Humboldt lily consisting of 10 individuals in an area less than 110 sq. feet was documented in the Centennial Site during 2019 field surveys.
- Woodlands and grasslands within the Centennial Site contain suitable nesting habitat for some raptors and birds. None of these species have been observed

within the Centennial Site and they are considered to have a moderate to high potential to occur and nest within the Centennial Site.

1 INTRODUCTION AND SUMMARY

1.1 Introduction

At the request of Rise Grass Valley Inc. ("Rise Grass Valley" or "Rise"), Mr. Greg Matuzak was retained to prepare a Biological Resources Assessment Report ("Biological Report") for the Centennial Industrial Site ("Centennial Site") located in Grass Valley, Nevada County, California (see Appendix A). The Biological Report includes an evaluation of sensitive biological resources within the Centennial Site, including sensitive biological resources under the jurisdiction of California Department of Fish and Wildlife ("CDFW"), United States Fish and Wildlife Service ("USFWS"), United States Army Corps of Engineers ("Corps"), and/or the Nevada County Planning Department. Preparation of the Biological Report included background research, biological resources field surveys, and reporting as detailed herein. Additionally, this Biological Report references and incorporates the findings of a stand-alone delineation of "waters of the United States", including wetlands, and "waters of the State of California" report that was developed for the entirety of the Centennial Site (see Greg Matuzak Environmental Consulting LLC, 2020).

Mr. Greg Matuzak, Principal and owner of Greg Matuzak Environmental Consulting LLC is a wetlands ecologist and wildlife biologist with 20 years of experience conducting aquatic resources delineations and biological resources assessments in Northern California. Mr. Matuzak is 40-hour Wetland Delineation Certified (Wetland Training Institute) and has conducted aquatic resources delineations for 100's of linear miles of projects and 1000s of acres of site development projects. Additionally, Mr. Matuzak has implemented special-status biological resources surveys and developed biological resources assessments for dozens of projects in Nevada County. Mr. Matuzak has lived and worked in Nevada County for over 13 years. Ms. Wendy Boes is a local Nevada County botanist and most recently worked for the Tahoe National Forest as a botanist. Ms. Boes is an independent consultant, GIS specialist, and conducts field data collection and GIS mapping for field related projects. Mr. Matuzak and Ms. Boes were responsible for the field data collection and assessment developed as part of the development of this Biological Report. Both Mr. Matuzak and Ms. Boes are on the Nevada County Planning Department's list of Qualified Biological Resources Consultants.

1.2 Project Setting

The Biological Report includes a full coverage assessment of the 56.41-acre Centennial Industrial Site; see Appendix A for Centennial Site Overview Figure. The recorded owner of the surface land which comprises the Centennial Site is Rise Grass Valley.

The Centennial Site is part of the original land holdings of the historic Idaho-Maryland Mine, which operated between approximately 1851 and 1956. The Centennial Site was the location of the mine tailings storage area for the larger mine site. The site discharged water into the main stem of Wolf Creek via a decant tower, which is still in place in the northwest portion of the site. During the 1930s, the Idaho-Maryland Mine operated a mineral processing plant, located adjacent and to the east of the Centennial Site. The results of historic mine tailing deposition in the Centennial Site can still be seen in the soils within the site, some of which have the appearance of many layers of deposited material of varying color.

The Centennial Site is located along Idaho Maryland Road on the northern boundary, Centennial Drive along the northeast boundary, DeMartini RV Sales along the western boundary, commercial development along the eastern boundary, and privately-owned industrial land along the southern boundary. Overall, the Centennial Site is surrounded by private commercial and industrial land use and zoning.

The Centennial Site includes the main stem of Wolf Creek, a perennial stream. The main stem of Wolf Creek generally runs parallel to and immediately south of Idaho Maryland Road along the northern boundary of the Centennial Site. A Centennial Site Overview Figure is included in Appendix A.

1.3 Previous Biological Resources Assessments of the Centennial Site

Several previous reports were developed for a separate project that included the Centennial Site and was completed by a different company that held a lease on the property. The previous assessments of the Centennial Site included a special-status plant survey report and wildlife habitat evaluation report. In addition, the previously proposed Idaho-Maryland Mine Project's (which included the Centennial Site) potential impacts on biological resources were evaluated per the California Environmental Quality Act (CEQA) guidelines requirements in 2008 when the impact assessment was completed. A Draft Environmental Impact Report (Draft EIR) was previously developed and included appendices for the previously assessed Idaho-Maryland Mine Project (ESA, 2008). Background biological resources surveys reporting developed as part of the baseline for the 2008 Draft EIR and previous regulatory agency coordination included the following:

- *Idaho-Maryland Mine Special-Status Plant Survey Report* (ESA, 2006). The ESA report includes the Centennial Site as well as other areas associated with the overall proposed mining operations at the time.
- *Idaho-Maryland Mine Special-Status Wildlife Habitat Evaluation Report* (ESA, 2006). The ESA report includes the Centennial Site as well as other areas associated with the overall proposed mining operations at the time.

- *Delineation of Section 404 Jurisdictional Areas Idaho-Maryland Mine, Nevada County, California* developed by WRA, Inc., dated April 2008 with follow up mapping submitted to the Corps on June 5, 2008.
- *Draft EIR Idaho-Maryland Mine Project* (ESA, 2008). The Draft EIR included previous reporting for the Centennial Site included as appendices.

In addition, Centennial Site biological resources reporting has been completed by the current landowner and applicant (Rise Grass Valley) for any potential future development within the Centennial Site. This reporting was developed as part of the development of the evaluation of the Centennial Site, which included the identification of the presence of biological resources within the Centennial Site and the findings of those reports are included directly and by reference into this Biological Report. The Centennial Site biological resources reporting included directly and by reference into this Biological Report includes the following:

- Centennial Site Aquatic Resources Delineation of Waters of the United States and State of California (Greg Matuzak Environmental Consulting LLC, 2020).
- Centennial Site Special Status Plant Survey Report (Boes, 2021).

1.4 Purpose

The purpose of the Biological Report is to identify the location and extent of biological resources within the Centennial Site, including any occupied habitat for special-status plant and wildlife species, protected and regulated by local, state, and federal agencies. This Biological Report also satisfies the Nevada County General Plan and Nevada County Land Use and Development Code requirements for the development of such biological resources assessments.

2 REGULATORY OVERVIEW

2.1 Federal Regulations

2.1.1 Section 404 of the Clean Water Act

The U.S. Army Corps of Engineers ("Corps") and the Environmental Protection Agency ("EPA") regulate the discharge of dredge or fill material into "waters of the U.S." under Section 404 of the Clean Water Act. "Waters of the U.S." include wetlands and lakes, rivers, streams, and their tributaries. Wetlands are defined for regulatory purposes as areas "…inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions" as specified in 33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3.

Generally, wetlands include swamps, marshes, bogs, and similar areas. Lakes, rivers, and streams are defined as "other waters of the U.S." Jurisdictional limits of these features are typically noted by the Ordinary High Water Mark ("OHWM"). The OHWM is the line on the shore established by the fluctuations of water and indicated by physical characteristics such as mark a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR 328 and 33 CFR 329).

Isolated ponds or seasonal depressions had been previously regulated as waters of the U.S. However, in *Solid Waste Agency of Northwestern Cook County* (SWANCC) *v. USACE et al.* (January 8, 2001), the U.S. Supreme Court ruled that certain "isolated" wetlands (e.g., non- navigable, isolated, and intrastate) do not fall under the jurisdiction of the CWA and are no longer under the jurisdiction of the Corps. Some circuit courts (e.g., *U.S. v. Deaton*, 2003; *U.S. Rapanos*, 2003; *Northern California River Watch v. City of Healdsburg*, 2006), though, have ruled that SWANCC does not prevent CWA jurisdiction if a "significant nexus" such as a hydrologic connection exists, whether it be man-made (e.g., roadside ditch) or natural tributary to navigable waters, or direct seepage from the wetland to the navigable water, a surface or underground hydraulic connection, an ecological connection (e.g., the same bird, mammal, and fish populations are supported by both the wetland and the navigable water), and changes to chemical concentrations in the navigable water is present due to water from the wetland.

Areas considered to be non-jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions with no outlet for drainage (33 CFR, Part 328).

The *Clean Water Rule* is a 2015 regulation published by the EPA and Corps to clarify water resources management in the United States under a provision of the CWA. The regulation defined the scope of federal water protection in a more consistent manner, particularly over streams and wetlands, which have a significant hydrological and ecological connection to traditional navigable waters, interstate waters, and territorial seas. It is also referred to as the *Waters of the United States* rule, which defines all bodies of water that fall under U.S. federal jurisdiction. The rule has been contested in litigation and in 2017 the Trump administration announced its intent to review and rescind or revise the rule. Following a Supreme Court ruling on January 22, 2018 that lifted a nationwide stay on the rule, the Trump administration formally suspended the rule until February 6, 2020, thereby giving the EPA time to issue a draft proposal of replacement water regulatory requirements.

On October 22, 2019, the EPA and the Corps published a final rule to repeal the 2015 Clean Water Rule: Definition of "Waters of the United States" ("2015 Rule"), which amended portions of the Code of Federal Regulations (CFR), and to restore the regulatory text that existed prior to the 2015 Rule. The final rule will become effective on December 23, 2019. The EPA and the Corps will implement the pre-2015 Rule regulations informed by applicable agency guidance documents and consistent with Supreme Court decisions and longstanding agency practice.

However, on April 21, 2020, the EPA and the Corps published the Navigable Waters Protection Rule to define "Waters of the United States" in the *Federal Register*. For the first time, the agencies have streamlined the definition so that it includes four simple categories of jurisdictional waters, provides clear exclusions for many water features that traditionally have not been regulated, and defines terms in the regulatory text that have never been defined before. Congress, in the CWA, explicitly directed the Agencies to protect "navigable waters." The Navigable Waters Protection Rule regulates traditional navigable waters and the core tributary systems that provide perennial or intermittent flow into them.

Under the final rule, four clear categories of waters are federally regulated:

- The territorial seas and traditional navigable waters,
- Perennial and intermittent tributaries to those waters,
- Certain lakes, ponds, and impoundments, and
- Wetlands adjacent to jurisdictional waters

Therefore, as of June 22, 2020, the final rule details 12 categories of exclusions, features that are not "waters of the United States," such as features that only contain water in direct response to rainfall (e.g., ephemeral features); groundwater; many ditches; prior converted cropland; and waste treatment systems. The final rule clarifies key elements

related to the scope of federal CWA jurisdiction, including:

- Providing clarity and consistency by removing the proposed separate categories for jurisdictional ditches and impoundments.
- Refining the proposed definition of "typical year," which provides important regional and temporal flexibility and ensures jurisdiction is being accurately determined in times that are not too wet and not too dry.
- Defining "adjacent wetlands" as wetlands that are meaningfully connected to other jurisdictional waters, for example, by directly abutting or having regular surface water communication with jurisdictional waters.

The Navigable Waters Protection Rule is the second step in a two-step process to review and revise the definition of "waters of the United States" consistent with the February 2017 Presidential Executive Order entitled "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States.'" This final rule became effective on June 22, 2020 and will replaces the Step One Rule published in October, 2019 as outlined above.

2.1.2 Section 401 of the Clean Water Act

Section 401 of the CWA requires an applicant, for any federal permit which may result in a discharge into waters of the U.S., to obtain a certification from the state that the discharge will comply with provisions of the CWA. The nine regions of the State Water Quality Control Board administer this program. Any condition of water quality certification would be incorporated into the Corps permit. California has a policy of no-net-loss of wetlands and typically requires mitigation for impacts to wetlands before it will issue a water quality certification. This Project is located under the jurisdiction of Region 5, the Central Valley Regional Water Quality Control Board ("RWQCB").

2.1.3 Endangered Species Act of 1973

For the Centennial Site, consultation with the USFWS would be necessary if a proposed action may affect a federally listed species. This consultation would proceed under Section 7 of the Endangered Species Act (ESA) if a federal action is part of the proposed action or through Section 10 of the ESA if no such nexus were available (USFWS, 1973). There are three federally protected plant species listed under the ESA that have previously been documented within 5 miles of the Centennial Site (CDFW 2019a). Scadden Flat checkerbloom (*Sidalcea stipularis*), Stebbins' morning glory (*Calystegia stebbinsii*), and Pine Hill flannelbush (*Fremontodendron decumbens*) are ESA listed species as Endangered. The Pine Hill flannelbush is known to occur within the southern and southwestern sections of the Centennial Site (see Appendix G). California red-legged frog (*Rana aurora draytonii*) is federally listed as threatened and though the

species has not previously been documented in the Centennial Site watershed or within 5 miles of the site, the species is known to occur north of the Centennial Site in Nevada County and therefore, this species is included in the assessment of special-status wildlife species as part of this Biological Report.

2.1.4 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BAGEPA) (16 USC Section 668) protects bald and golden eagles and their nests from direct "take" (i.e. harm or harassment as described above). BAGEPA prohibits the take or commerce of any part of the bald or golden eagles (USFWS, 1940). The USFWS administers the Act and reviews actions that may affect species protected under the Act.

2.2 State Regulations

2.2.1 California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) has jurisdiction over plant and wildlife species listed as threatened or endangered under section 2080 of the California Fish and Game Code. The California Endangered Species Act (CESA) regulates take of state-listed threatened and endangered species. The state Act differs from the federal Act in that it does not include habitat destruction in its definition of *take*. The CDFW defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CDFW may authorize *take* under the CESA through Sections 2081 agreements. If the results of a biological survey indicate that a state-listed species would be affected by the project, the CDFW would issue an Agreement under Section 2081 of the CDFW Code and would establish a Memorandum of Understanding for the protection of state-listed species. CDFW maintains lists for Candidate-Endangered Species and Candidate-Threatened Species. Scadden Flat checkerbloom (*Sidalcea stipularis*) and Stebbins' morning glory (*Calystegia stebbinsii*) are State ESA listed species as Endangered, while Pine Hill flannelbush (*Fremontodendron decumbens*) is designated as a State Rare Species. All three plants have been known to occur within 5 miles of the Centennial Site, but only the Pine Hill flannelbush has been identified on the site (CDFW 2019a).

Pine Hill flannelbush has been documented to occur within the southern and southwestern sections of the Centennial Site (see map in Appendix G). In addition, the foothill yellow-legged frog (*Rana boylii*) is a CESA listed Threatened species and although not found at the site, it is nevertheless discussed in this Biological Report given the presence of several perennial, intermittent, and ephemeral streams within the Centennial Site. The California black rail (*Laterallus jamaicensis coturniculus*) has been previously documented within 5 miles of the Centennial Site and is listed as Threatened under the

State ESA. This species is not found at the site but is known to occur in freshwater marsh wetlands with a perennial water source so it is discussed within this Biological Report given the presence of similar wetlands within the Centennial Site. The western bumble bee (*Bombus occidentalis occidentalis*) is a CESA Candidate for listing as Endangered; however, the species was last documented within 5 miles of the Centennial Site in 1968 (considered its historical distribution) and is currently only known (current distribution known from 2003 – 2017) from a few locations in the Sierra Nevada, none of which are within western Nevada County where the Centennial Site is located (CDFW 2019b); therefore, it is unlikely the species would occur within the Centennial Site.

2.2.2 Streambed Alteration Agreements: CDFG Code Section 1600 et seq.

CDFW has jurisdiction over substantial alterations to the bed or bank of rivers, streams, and lakes under Sections 1600–1616. CDFW has the authority to regulate all work that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

The perennial, intermittent, and ephemeral streams within the Centennial Site would most likely be regulated by CDFW. Therefore, a CDFW Streambed Alteration Agreement may be required for encroachment into the bed and bank of the streams located within the Centennial Site.

2.2.3 Porter-Cologne Water Quality Control Act & Section 1601 and Section 1607 of CDFG Code

These acts and codes pertain to projects with potential impacts to water quality or waterways. The Centennial Site does contain waters of the State as defined by the State Water Resources Board (State Board 2014) and they correspond to the features mapped within the Centennial Site (see Greg Matuzak Environmental Consulting LLC, 2020).

2.2.4 State Water Resources Control Board Wetland Policy (April 2019)

On April 2, 2019, the State Water Resources Control Board (State Water Board) adopted rules to protect wetlands and other environmentally sensitive waterways throughout the state. According to the State Water Board, more than 90 percent of California's historic wetlands have been lost to development and other human activity. Wetlands are a critical natural resource that protect and improve water quality, provide habitat for fish and wildlife, and buffer developed areas from flooding and sea-level rise. The newly adopted rules provide a new, statewide definition of what constitutes a state-regulated wetland. They also provide consistency in the way the State Water Board and nine regional water boards regulate activities to protect wetlands. The State of California

waters of the state are, by definition, broader than "waters of the United States" covered by federal regulation. The newly adopted rules do not change that and will ensure that waters of the state will continue to be protected even if protections for federal waters are narrowed by administrative actions or the courts.

The new definition clarifies what is considered a wetland – and what is not – for the entire state, provides a common framework for monitoring and reporting the quality of California's remaining wetlands, helps ensure no overall net loss, and promote an increase, in the quantity, quality, and sustainability of waters of the state, including wetlands, improves transparency and consistency across the State Water Board and the nine Regional Water Quality Control Boards in how discharges of dredged or fill material in sensitive waterways are monitored and regulated, and avoids duplicative work and streamline requirements to cover all waters of the state, so both state and federal environmental concerns are addressed at once.

2.2.5 California Department of Fish and Game Code Sections 3503, 3503.5, and 3800: Nesting Migratory Bird and Raptors

Sections 3503, 3503.5, and 3800 of the CDFG Code prohibit the take, possession, or needless destruction of birds, their nests or eggs unless otherwise provided by state law. Protected nesting bird species under these CDFG Codes should be identified during their nesting season if present prior to site disturbance. Such birds and their nests and eggs should be avoided.

2.2.6 California Special Species of Concern, Fully Protected, and Special Status Species

California designates Species of Special Concern (SSC) as species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational or educational values. These species do not have the same legal protection as listed species (CDFW 2014). For example, the coast horned lizard (*Phrynosoma blainvillii*) is designated as SSC and the species is evaluated as part of this Biological Report since it has been identified within 5 miles of the Centennial Site.

In the 1960's California created a designation to provide additional protection to rare species. This designation remains today and is referred to as "Fully Protected" species, and those listed "may not be taken or possessed at any time" (CDFW 2014). The California black rail (*Laterallus jamaicensis coturniculus*) for instance has been previously documented within Nevada County, including within 5 miles to the southeast and southwest of the Centennial Site. This species is designated as Fully Protected by the State of California. That said, the California black rail is not found at the site.

California special status species are identified by the California Natural Diversity Database (CNDDB) and includes those species considered to be of greatest conservation need by the CDFW.

2.2.7 California Environmental Quality Act Guidelines Section 15380

California Environmental Quality Act (CEQA) Guidelines section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria (e.g. survival of the species is in immediate jeopardy, or likely to become endangered in the foreseeable future). This section was included in the guidelines to deal primarily with situations in which a public agency is reviewing a project that may have a significant effect on, for example a "candidate species" that has not yet been listed by the USFWS or CDFW. CEQA, therefore, enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted (CNRA 2012).

Plants appearing on the California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1 and 2 are considered to meet CEQA's Section 15380 criteria. Ranks include: 1A) plants presumed extirpated in California and either rare or extinct elsewhere, 1B) plant rare, threatened, or endangered in California and elsewhere, 2A) plants presumed extirpated in California, but more common elsewhere, and 2B) plants rare, threatened, or endangered in California, but more common elsewhere. Impacts to these species would therefore be considered "significant" requiring mitigation.

2.2.8 State Oak Woodland Regulations

State laws that regulate protection of oak woodlands include Professional Forester's Law (PFL) and CEQA according to Public Resources Code Section 21083.4. "Oaks" are defined in Public Resources Code Section 21083.4 as a native tree species in the genus *Quercus*, that is 5 inches diameter at breast height (DBH) or greater. Oak trees and oak woodland habitats are protected under both the State and the Nevada County landmark groves and landmark oak tree regulations as discussed below. The Centennial Site does not contain any protected oak trees or oak resources per the State of California policies for the protection of oak woodlands as set forth in Public Resources Code Section 21083.4 and the Nevada County Land Use and Development Code.

2.3 Local Regulations

2.3.1 Nevada County Landmark Groves and Landmark Oak Tree Regulations

The Nevada County Land Use and Development Code, Chapter II; Zoning Regulations,

Section L-II 4.3.18 for Trees. Landmark trees are any native oak tree species (*Quercus* species) with a trunk diameter of 36" or greater at diameter breast height (dbh or 4'6"). Identifies landmark groves as hardwood tree groves with 33+% canopy closure, or groves whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal government

Projects shall be approved only when they do not remove or disturb defined trees or groves, unless a Management Plan is prepared consistent with paragraph 3 below or other standards are met consistent with paragraph 3 below. Exempted from this standard shall be trees or groves determined to be dead, dying, or a public safety hazard by a certified professional arborist, licensed landscape architect, registered professional forester, or qualified biologist or botanist (referred to herein as a qualified professional). In addition, exemption shall apply to those trees that must be removed to ensure fire safe access or provide adequate fuel reduction as determined by the California Department of Forestry or local fire district. Tree removal may also be allowed where necessary to provide for site access and public utilities or public right-of-way.

If the above standard effectively precludes development of the project or a revised project, or adversely affects another environmentally sensitive resource, a Management Plan shall be prepared by a certified arborist, registered forester, qualified biologist or botanist, or landscape architect. Said Plan shall evaluate the impact of the project on defined trees and groves and recommend project modifications that avoid or minimize impacts. Emphasis shall be placed on protecting groups of trees rather than individuals. Defined trees that must be removed shall be replaced on an inch for an inch replacement of the removed tree(s). The total of replacement trees shall be required to have a combined diameter of the tree(s) removed. The Management Plan shall provide for the long-term maintenance of the replacement trees.

Management Plans shall emphasize protection of two varieties of oak: blue oak (*Quercus douglasii*) and valley oak (*Quercus lobata*). Both are of very limited distribution in Nevada County. However, no such protected oak resources were identified within the Centennial Site and thus a Management Plan would not be required to be developed for the protection of such landmark oak trees and/or landmark oak groves within the Centennial Site.

2.3.2 Nevada County Water Courses, Wetlands, and Riparian Areas Management Plan

Per the Nevada County Land Use and Development Code, Chapter II; Zoning Regulations, Section L-II 4.3 17C.3 (Ordinance Number 2033) requires a Management Plan be prepared for projects in non-disturbance buffers, including areas that are within 100 feet of the high water mark of perennial streams, watercourses, and wetlands, 50 feet from the high water mark of intermittent watercourses, and 100 feet upslope or 20 feet downslope from an NID canal (Nevada County 2000. Land Use and Development Code, Chapter II:

Zoning Regulations. Effective July 27, 2000). Therefore, the development of such a Management Plan would be required for any potential future development within such non-disturbance buffers. The development of such a Management Plan would meet the requirements of the Nevada County Land Use and Development Code.

2.3.3 Rare, Threatened, and Endangered Species and Their Habitat

The Nevada County Land Use and Development Code, Section L-II 4.3.12, includes regulations intended to follow the federal and state Endangered Species Acts, by avoiding the impact to development on rare, threatened, endangered, and special status species and their habitat, or where avoidance is not possible, to minimize or compensate for such impacts and to retain their habitat as non-disturbance open space. The regulations indicate that a project may only be approved when it is determined by the Nevada County Planning Agency that it will not adversely affect rare, threatened, or endangered species or their occupied habitat and that it will result in no net loss of habitat function or value for the defined species. When it is determined that a project will adversely affect a defined species or their habitat, the regulations require that a site-specific habitat management plan consistent with state and federal requirements be prepared.

2.3.4 Nevada County General Plan

Centennial Site land use changes and/or any subsequent development would be required to comply with those goals and policies outlined in the Nevada County General Plan and thus are included here.

The following goals and policies regarding relevant biological resources are set forth in Chapter 13: Wildlife and Vegetation of the Nevada County General Plan.

Goal 13.1 Identify and manage significant areas to achieve sustainable habitat.

Objective 13.1 Discourage intrusion and encroachment by incompatible land uses in significant and sensitive habitats.

Policy 13.1 Where significant environmental features, as defined in Policy 1.17, are identified during review of projects, the County shall require all portions of the project site that contain or influence said areas to be retained as non-disturbance open space through clustered development on suitable portions of the project site, or other means where mandatory clustering cannot be achieved. The intent and emphasis of such open space designation and non-disturbance is to promote continued viability of contiguous or inter-dependent habitats by avoiding fragmentation of existing habitat areas and preserving movement corridors between related habitats. Vegetation management for the benefit of habitat preservation or restoration shall be considered consistent with the intent of this policy.

Policy 13.2 As part of the Comprehensive Site Development Standards, include standards to minimize removal of existing vegetation and require installation and long-term maintenance of landscaping in Chapter 13: Wildlife and Vegetation Element Nevada County General Plan Volume I - Page 13-5 setbacks and buffer areas. These standards shall be applicable to all discretionary projects and to all ministerial projects other than a single-family residence located on an individual lot. Tree removal may be allowed where necessary to comply with public right-of-way development or dedication, or development of required site access and public utilities. Individual trees or groups of trees shall be protected during construction to prevent damage to the trees and their root systems. Vegetation in proximity to structures shall conform to applicable fire protection standards.

Policy 13.2A Project review standards shall include a requirement to conduct a site-specific biological inventory to determine the presence of special status species or habitat for such species that may be affected by a proposed project. The results of the biological inventory shall be used as the basis for establishing land use siting and design tools required to achieve the objective of no net loss of habitat function or value for special status species. Where a Habitat Management Plan is deemed appropriate, the Plan shall be prepared to comply with the requirements of the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). The plan shall provide the background data, impact analysis, and mitigation programs necessary to obtain a FESA Section 10(a) and CESA Section 2081 permit authorizing incidental take of federal and state listed threatened and endangered species that occur in areas proposed for future development. Prior to implementation of an adopted Habitat Management Plan, project applicants proposing the development of a project that would impact a federal or state listed species, or a species that is proposed for listing, shall be individually responsible for obtaining federal and state incidental take permits on a project-by-project basis.

Policy 13.3 As part of the Comprehensive Site Development Standards, require the maximum feasible use of drought tolerant native plant species for landscaping of all new multi-family residential, commercial, industrial, and public projects. Invasive, non-native plants, as determined by a landscape architect or other similar expert, that may displace native vegetation on adjoining undeveloped lands shall not be used. Landscaping with native trees and shrubs shall be encouraged to provide suitable habitat for native wildlife, particularly in proposed open space uses of future development.

Policy 13.4 Encourage long-term sustainability and maintenance of landscaped areas.

Policy 13.4A No net loss of habitat functions or values shall be caused by development where rare and endangered species and wetlands of over 1 acre, in aggregate, are identified during the review of proposed projects. No net loss shall be achieved through avoidance of the resource, or through creation or restoration of habitat of superior or comparable quality, in accordance with guidelines of the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Policy 13.4B Habitat that is required to be protected, restored, or created as mitigation for a project's impacts shall be monitored and maintained in accord with a County-approved Habitat Management Plan.

Objective 13.2 Minimize impacts to corridors to ensure movement of wildlife.

Objective 13.3 Provide for the integrity and continuity of wildlife environments.

Objective 13.5 Support, where feasible, the continued diversity and sustain ability of the habitat resource through restoration and protection.

Objective 13.7 Identify and preserve heritage and landmark trees and groves where appropriate.

Policy 13.9 Development in the vicinity of significant oak groves of all oak species shall be designed and sited to maximize the long-term preservation of the trees and the integrity of their natural setting. The County shall adopt a regulation to protect native heritage oak trees and significant oak groves. All native oak tree species with a trunk diameter of 36" or greater shall be protected.

3 METHODOLOGY

In order to evaluate the Centennial Site for the presence of any sensitive biological resources, baseline information from databases and reporting for similar projects in the City of Grass Valley and Nevada County was collected and reviewed prior to conducting reconnaissance-level field biological surveys. The database searches, background research, and habitat level field surveys characterized the baseline conditions of the Centennial Site. Baseline information also included previous biological resources survey reporting (ESA, 2006) conducted as part of the Draft EIR (ESA, 2008) developed for a similar development of the Idaho-Maryland Mine that included the Centennial Site.

Based on the baseline conditions of the Centennial Site, an assessment was implemented to determine if any CNPS ranked plants and special-status plant or wildlife species have the potential to use the Centennial Site at any time during their life cycle. The baseline conditions also identified the presence of any sensitive habitat or communities, including "waters of the U.S.," including wetlands, that had been identified and mapped within the Aquatic Resources Delineation Report developed for the Centennial Site (see Greg Matuzak Environmental Consulting LLC, 2020).

3.1 Sensitive Biological Resources Background Review

The following information was used to identify potential sensitive biological resources, including the presence of CNPS ranked plants and special-status plant and wildlife species, within the Centennial Site region that could be found to use the Centennial Site:

- California Department of Fish and Wildlife's California Natural Diversity Database records search of 5-mile buffer around the Centennial Site (CDFW, 2019a);
- The California Native Plant Society's online Inventory of Rare and Endangered Plants of California for the Centennial Site and Nevada County (CNPS, 2019);
- The U.S. Fish and Wildlife Service Information, Planning, and Consultation System (IPaC) for endangered, threatened, and proposed listed species for the Centennial Site (USFWS, 2019);
- National Wetland Inventory map of the Centennial Site (NWI, 2019);
- United States Department of Agriculture (USDA) Soils Mapper of the Centennial Site (USDA, 2019);
- Natural Resources Conservation Service (NRCS) Hydric Soils List for Nevada County (NRCS, 2019);
- Nevada County General Plan (Nevada County, 1996 with subsequent amendments through 2012);

- Draft Environmental Impact Report, including Appendices, for the Idaho-Maryland Mine Project (ESA Associates October 2008);
- Idaho-Maryland Mine Special-Status Plant Survey Report (ESA Associates August 2006);
- Idaho-Maryland Mine Special-Status Wildlife Habitat Evaluation Report (ESA Associates August 2006);
- Centennial Site Aquatic Resources Delineation of Waters of the United States and State of California (Greg Matuzak Environmental Consulting LLC, 2020); and
- Centennial Site Special Status Plant Survey Report (Wendy Boes Botanical Consultant, August 2020).

3.2 Reconnaissance-level Biological Resources Field Surveys

Reconnaissance-level biological resources field surveys were conducted on foot for the entirety of the Centennial Site (56.41 acres) by Greg Matuzak, Principal Biologist and owner of Greg Matuzak Environmental Consulting LLC, and Wendy Boes, a local Nevada County botanist, on December 9th through 12th and 17th and 18th, 2018. Follow up reconnaissance-level biological resources field surveys were conducted by Greg Matuzak for potential special-status wildlife species habitats on December 30th, 2018 and by Wendy Boes for the CNPS ranked plants and special-status plant species habitat on January 3rd, 2019. The purpose of the surveys completed in December 2018 and January 2019 was to identify habitat and vegetation types and to determine the potential for any CNPS ranked plants and special-status plant and wildlife species identified in the desktop analysis and background research to occur within the Centennial Site. Further evaluation of the Centennial Site was conducted on July 1st, 10th, and 14th, 2019 by Ms. Boes who implemented protocol-level botanical surveys within the entirety of the Centennial Site during the time of year when the target special- status plant species with potential to occur within the Centennial Site are known to be in bloom and identification of each is most likely. Wendy Boes most recently served as a US Forest Service botanist with the local Tahoe National Forest and has also been a local botanical expert consultant in the greater project area for many years.

During the site visits and surveys conducted in July 2019, Greg Matuzak also conducted reconnaissance-level wildlife surveys on July 10th and 14th, 2019 to document the presence of such species within the Centennial Site and to document suitable habit for such species within the Centennial Site. Additionally, Mr. Greg Matuzak conducted a follow up review of targeted areas within the central and eastern sections of the Centennial Industrial Site on August 27, 2020 to reevaluate the potential presence of seasonal wetlands not previously mapped as part of the December 2018 and July 2019 wetland assessment fieldrelated surveys (see Greg Matuzak Environmental Consulting LLC, 2020).

The presence of streams and wetlands within the Centennial Site that could be regulated by state and/or federal agencies were identified and mapped simultaneously and independently from the development of this Biological Report. See the stand-alone Aquatic Resources Delineation reporting for the Centennial Site (Greg Matuzak Environmental Consulting LLC, 2020, Appendix G). The entirety of the Centennial Site was surveyed on foot and a list of plant and wildlife species observed during the field surveys was compiled (see Appendix E for species lists). A Photo Log is included in Appendix H, which documents the Centennial Site during the field surveys.

3.3 Centennial Site Characterization

The Centennial site has been disturbed by historic mining and lumber mill practices, public access, and ongoing management for many years which is now considered normal for the Centennial Site. Within the Centennial Site, the dumping of soils, landscape materials, and other miscellaneous items has also occurred for many years and the current circumstances are now considered normal. Areas not subject to this regular type of disturbance are dominated by native habitat and, therefore, are also the normal circumstance.

All vascular plant species identified at the time of the survey were recorded using keys and descriptions in *The Jepson Manual* (Baldwin et al., 2012). Vegetation types were classified by ESA Associates (2006) during the previous environmental review process (hereby incorporated by reference). ESA Associates mapped and classified wildlife habitats/vegetation types using the California Department of Fish and Game's (CDFG) *A Guide to Wildlife Habitats* (Mayer and Laudenslayer, 1988). The classifications and mapping completed by ESA was found to be far more detailed than the existing CDFW California Wildlife Habitat Relationships (CWHR) layers that were evaluated for the Centennial Site, therefore, the ESA Associates vegetation descriptions were used for a more detailed documentation of vegetation types and as a springboard for the descriptions within this Biological Report (see Appendix D for a Vegetation Community Map for the Centennial Site). A list of plant and wildlife species identified within the Centennial Site as part of the development of this Biological Report is located in Appendix E.

4 ENVIRONMENTAL SETTING

4.1 Environmental Setting

The Centennial Site is located in Nevada County, CA in the northern-central Sierra Nevada foothills. The Sierra Nevada foothills lie between the western edge of the Sierra Nevada and the eastern border of the Central Valley. The foothills form a belt 10 to 30 miles wide that ranges from 500 to 5,000 feet in elevation in a series of northwest to north-northwest aligned ridges that decline in elevation from northeast to southwest. Many rapidly flowing rivers and streams run westerly in deeply incised canyons with bedrock channels to the Central Valley and eventually to the Pacific Ocean. Alluvial fans, floodplains, and terraces are not extensive; and all but the largest streams are generally dry during the summer. Dominant vegetation communities include grasslands, oak woodlands, and chaparral.

Vegetation communities within the Centennial Site are typical of the lower Sierra Nevada foothills. However, the terrain within the Centennial Site is not typical of the lower Sierra Nevada foothills that normally vary between flat ridges and valleys to gently and moderately sloping hillsides. The Centennial Site elevation ranges from approximately 2,500 to 2,600 feet above mean sea level (MSL) and much of the Centennial Site has been impacted due to historical mining and lumber mill practices, which has included the placement of large amounts of mine tailings within the Centennial Site and the removal of vegetation, among other disturbances. The Centennial Site is located along the main stem of Wolf Creek and the interior of the site is dominated by mixed hardwood-conifer forests, with areas of montane riparian woodland, mixed chaparral, mixed wetland types, and annual grassland.

Natural hydrological sources for the Centennial Site include precipitation and surface run-off from adjacent lands. Mean annual rainfall in the area is 53.74 inches (NRCS, 2018). During rain events over the previous month prior to the field surveys, very little surface water and no snow was identified. However, evidence of surface moisture was still present in some areas. Water stained leaves and damp surface soil/leaf litter was observed and some mapped wetland features had surface ponding.

The Centennial Site includes a perennial stream, the main stem of Wolf Creek. The main stem of Wolf Creek generally runs parallel to and immediately south of Idaho Maryland Road along the northern boundary of the Centennial Site. In addition, the Centennial Site contains several ephemeral and intermittent streams that connect with the main stem of Wolf Creek within the northwestern section of the Centennial Site. The drainages and streams located within the Centennial Site are described in the Aquatic Resources Delineation Report (Greg Matuzak Environmental Consulting LLC, 2020). Drainage patterns within the Centennial Site drain to the main stem of Wolf Creek located along

the northern boundary of the Centennial Site (see Appendix C for a National Wetland Inventory figure).

4.2 Centennial Site Soil Types

The USDA identifies several soil types within the Centennial Site. USDA soil mapping for the Centennial Site area is included in Appendix B.

The USDA Soil Survey Mapper (USDA, 2019) indicates that the Centennial Site includes 4 soil types: Cut and fill land (Ct), Placer diggings (Pr), Rock outcrop-Dubakella coplex on 5 to 50 percent slopes (RrE), and Secca-Rock outcrop complex on 2 to 50 percent slopes (ScE). These soil types are described in detail below and their presence, as identified by the USDA online mapper, is attached in Appendix B:

- **Cut and fill land (Ct).** This soil type consists of areas that have been altered by activities other than mining such that there are no intact soil characteristics. This soil is not hydric.
- **Placer diggings (Pr).** The Placer diggings series consists of remnant tertiary river deposits associated with hydraulic mining and placer mining operations as well natural deposits within stream channels. Areas with this soil type are 90 to 100 percent rock, cobble or gravel. 50 to 75 percent of these lands have a mixture of rock, cobbles, gravel and soil. This soil contains unnamed hydric inclusions in drainages and depressions.
- **Rock outcrop-Dubakella complex on 5 to 50 percent slopes (RrE).** The Rock outcrop-Dubakella complex consists of well-drained soils on mountains. This complex is made up of 50 percent Dubakella gravelly loam, 40 percent rock outcrop and 10 percent included soils. These soils formed from weathered rocks with a large amount of serpentinitic minerals. Drainage is slow and runoff is very high. These soils are not hydric. A typical profile for this complex consists of dark brown (7.5 YR 3/2) gravelly loam from 0 to 2 inches underlain by a reddish brown (5YR 3/4) gravelly clay loam from 2 to 10 inches. This layer is underlain by a variegated yellowish brown (10YR 4/4) and reddish brown (7.5YR 4/4) very cobbly clay from 11 to 21 inches. This layer underlain by a blue green, hard, fractured and partly weathered serpentinized layer at 21 inches. Several special-status plant species have the potential to occur on the gabbro soils of the Dubakella and Secca-Rock complex soils within the Centennial Site (Boes 2020, see Section 4.4 below).
- **Secca-Rock outcrop complex on 2 to 50 percent slopes (ScE).** This complex consists of moderately well-drained soils on gently sloping to steep mountain terrain. These soils formed from basic igneous and metamorphic rock. Drainage is

slow and runoff is slow to rapid. These soils are not hydric. A typical profile for Secca-Rock outcrop complex consists of brown (5YR 3/4) gravelly silt loam from 0 to 6 inches. This layer is underlain by a reddish brown (5YR 3/4) gravelly silt loam from 6 to 15 inches. This layer is underlain by dark reddish brown (5YR 3/4) cobbly silty clay loam from 15 to 22 inches. From 22 to 36 inches is a strong brown (7.5YR 4/4) cobbly clay, which is underlain by a yellowish brown (10YR 5/6) cobbly clay from 36 to 45 inches. At 45 inches is weathered metabasic rock.

4.3 Centennial Site Vegetation Communities

Vegetation communities within the Centennial Site include the following vegetation community types as described below. Table 1.0 below includes a list of each of the vegetation communities and the acreages of each vegetation community identified and mapped within the Centennial Site (see Appendix D for the Vegetation Community Map).

Montane Hardwood

Montane hardwood habitat is identified within the Centennial Site in small, localized stands. Montane hardwood is characterized here by stands of an overstory of California black oak and occasionally canyon live oak (*Quercus chrysolepis)*. There is often homogeneity in the canopy structure, and canopy closure is variable between seasons as the dominant overstories species is deciduous, ranging from 5-45%. Due to the historic disturbance, there is abundant Himalayan blackberry (*Rubus armenicus)* in the understory along with other nonnatives including bristly dogtail (*Cynosurus echinatus)* and hedgenettle (*Torilis arvensis)*.

Montane Hardwood-Conifer

Montane hardwood-conifer habitat in the Sierra Nevada occurs at elevations between 1,000 and 4,000 feet above MSL and is comprised of a mosaic of hardwoods and conifers. The Centennial Site is likely a midpoint on the gradient between hardwood forest and conifer forest containing both hardwood and conifer tree species, often in a mosaic pattern with small pure stands of conifers interspersed with small stands of hardwoods. Species associated with montane hardwood-conifer include ponderosa pine, California black oak, canyon live oak, madrone and Douglas fir.

Mixed Chaparral

Mixed chaparral is identified within the Centennial Site. Mixed chaparral is primarily associated with the gabbro soils of the Secca and Dubekella complexes that are known to occur within the southwestern section of the site. In the gabbro, this vegetation type is relatively intact and is characterized by whiteleaf manzanita, buck brush (*Ceanothus cuneatus),* Oregon white oak (*Quercus garryana* var. *semota),* chaparral pea

(*Pickeringia montana), and* occasionally scattered foothill pine. McNab cypress (*Hesperocyparis macnabiana)* is occasional in the southwestern portions of the Centennial Site. With the exception of occasional natural and manmade openings within this habitat type, mixed chaparral forms almost continuous stands. Mixed chaparral is also present in heavily disturbed areas, both recent and historic disturbances. In the ruderal habitats there is a scattered formation of chaparral, usually characterized by whiteleaf manzanita with buck brush and coyote brush (*Baccharis pilularis)*.

Annual Grassland

Annual grassland are open vegetation types that are dominated by annual plant species, often nonnative. These species can occur within the understory of other vegetation types like oak woodlands, but where annual grasslands are mapped there is little to no overstory or shrub cover. This vegetation type is common within the Centennial Site where there has been historic disturbance and little to no water source other than rainfall. The fall rainfall will spark germination and plants will grow through the cool months and in spring will grow rapidly and flower, fruit and senesce. Common to the environmental setting of this habitat type are yellow star thistle (*Centaurea solstitalis),* garden burnett (*Poterium sanguisorba),* soft chess (*Bromus hordeaceous),* bisnaga (*Ammi visnaga),* and patches of Himalayan blackberry.

Montane Riparian

A structural gradient generally occurs from neighboring vegetation into montane riparian, resulting in oaks or pines grading in with the more riparian species. This vegetation type is characterized by two different ecological conditions, (1) placer diggings and (2) along the stretch of the main stem of Wolf Creek.

The montane riparian in the placer diggings and areas created from earth movement are characterized by black cottonwood (*Populus tremuloides),* red willow (*Salix laevigata),* arroyo willow *(Salix lasiolepis),* and occasionally ponderosa pine in the overstory. Dense thickets are often resultant with Himalayan blackberry and Baltic rush (*Juncus balticus* ssp. *atar)* in the herbaceous layer.

The montane riparian vegetation along both sides of the main stem of Wolf Creek is dominated by white alder (*Alnus rhombifolia)* with other overstory species from adjacent vegetation types, including California black oak, pine and Douglas fir. The understory of montane riparian along the stream is dominated by Himalayan blackberry.

Wet Meadow

Wet meadows generally contain a single vegetation stratum and are generally dominated by forbs and gramanoids. Shrub and trees are sometimes present but generally make up a small portion of this vegetation type. This is typically a diverse plant

community driven by hydrologic influences. The wet meadows in the Centennial Site are typically created where extreme disturbance has occurred in the past or the presence of placer diggings. These wet meadows are characterized by *Agrostis, Juncus* spp. and Baltic rush.

Freshwater Emergent Marsh Wetlands

Freshwater emergent marsh wetlands are characterized by hydrophyllic plants and generally standing water. All emergent wetlands have soils that are saturated to the extent that the soils are always anaerobic. There are fresh emergent wetlands identified within the Centennial Site. This habitat type within the Centennial Site is dominated by cattails (*Typha* spp.), arroyo willow, and pacific rush (*Juncus effuses* ssp. *pacificus)*.

TABLE 1.0 VEGETATION COMMUNITIES AND ACREAGES

Vegetation Community	Acres within Centennial Site
Montane Hardwood-Conifer	5.29
Montane Hardwood	0.48
Wolf Creek and Montane Riparian	20.07
Mixed Chaparral	16.24
Annual Grassland	9.74
Freshwater Emergent Marsh Wetland	0.58
Wet Meadow	4.01
Total	**56.41**

5 Results

CNPS ranked plants and special-status species were considered for the Centennial Site based on a current review of the CNDDB and database information provided by the United States Fish and Wildlife Service and California Native Plant Society for the Centennial Site as well as the reconnaissance-level biological surveys as outlined in this Biological Report. Table 2.0 below includes the vegetation communities identified within the Centennial Site as well as the potential special-status species that could occur within each of the vegetation communities mapped within the Centennial Site (see Appendix D for a map of the vegetation communities within the Centennial Site).

For the purposes of this Biological Report, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species or species of special concern by CDFW;
- identified as Medium or High priority species by the Western Bat Working Group; and
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1 and 2]:

- CRPR 1A: Plants presumed extinct.
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A: Plants extirpated in California, but common elsewhere.
- CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.

The study area does not contain any mapped CDFW sensitive communities (see Appendix J for a CDFW CNDDB map of the study area and a 5-mile buffer). Therefore, CDFW sensitive communities are not discussed within this reporting effort further given the lack of mapping provided for such sensitive communities by CDFW within and adjacent to the Centennial Site.

TABLE 2.0 SPECIAL-STATUS SPECIES ASSOCIATED WITH VEGETATION COMMUNITIES

Vegetation Community	Associated Special-Status Species
Montane Hardwood-Conifer	Chaparral sedge (Rank 1B.2), Red Hills soaproot (Rank 1B.2), Sierra blue grass (Rank 1B.3), Cantelow's lewisia (Rank 1B.2) Cooper's hawk and other nesting raptors and migratory birds (CDFW)
Montane Hardwood	Chaparral sedge (Rank 1B.2), Red Hills soaproot (Rank 1B.2), Sierra blue grass (Rank 1B.3), Cantelow's lewisia (Rank 1B.2) Cooper's hawk and other nesting raptors and migratory birds (CDFW)
Wolf Creek and Montane Riparian	Sierra blue grass (Rank 1B.3) Foothill yellow-legged frog (CSC), Western pond turtle (CSC), nesting migratory birds (CDFW)
Mixed Chaparral	Pinehill flannelbush (FE/CR), Stebbins' morning glory (FE/CE), finger rush (Rank 1B.1), Chaparral sedge (Rank 1B.2), Cantelow's lewisia (Rank 1B.2), Red Hills soaproot (Rank 1B.2) Coast horned lizard (CSC), nesting migratory birds (CDFW)
Annual Grassland	Brownish beaked-rush (Rank 2B.2)
Freshwater Emergent Marsh Wetland	Scadden Flat checkerbloom (FT/CT) and Brownish beaked-rush (Rank 2B.2) California red-legged frog (FT, CSC), Western pond turtle (CSC), and California black rail (CT)
Wet Meadow	Brownish beaked-rush (Rank 2B.2) and finger rush (Rank 1B.1)

5.1 Aquatic Resources Delineation Results

A total of 4.97 acres of "waters of the U.S.", including wetlands, and "waters of the State of California", were identified and mapped within the Project Area. The 4.97 acres of wetland-waters includes 4.37 acres of mapped wetlands and 0.60 acres of mapped "other waters of the U.S.," including the main stem of Wolf Creek, as well as several intermittent and ephemeral streams.

The 4.37 acres of wetlands identified and mapped within the Centennial Industrial Site includes:

- 2.88 acres of wet meadow wetlands (14 features mapped);
- 0.31 acres of freshwater emergent marsh wetlands (2 features mapped); and
- 1.18 acres of riparian wetlands (1 feature mapped).

Table 3 includes the list of wetlands delineated and mapped within the Project Area, including the wetland type, wetland identification number which corresponds to the delineation figures shown in Appendix H, and size of each feature.

Table 3. Wetlands Delineated Within Centennial Industrial Site

No.	Wetland Type	Wetland ID Number	Size (Acres)
1	Meadow wetland	WM-4	1.57
2	Meadow wetland	WM-5	0.86
3	Meadow wetland	WM-6	0.003
4	Meadow wetland	WM-7	0.004
5	Meadow wetland	WM-8	0.004
6	Marsh	MA-1	0.21
7	Marsh	MA-2	0.10
8	Meadow wetland	WM-9	0.02
9	Meadow wetland	WM-10	0.001
10	Meadow wetland	WM-11	0.04
11	Meadow wetland	WM-12	0.27
12	Riparian	RI-1	1.18
13	Meadow wetland	WM-13	0.03
14	Meadow wetland	WM-1	0.01
15	Meadow wetland	WM-2	0.006
16	Meadow wetland	WM-3	0.05
17	Meadow wetland	WM-14	0.01
17			**4.37**

The 0.60 acres (3,968 linear feet) of streams identified and mapped within the Centennial Industrial Site includes:

- One (1) perennial stream, the main stem of Wolf Creek, totaling 0.38 acres over 1,262 linear feet;
- Two (2) intermittent streams totaling 0.17 acres over 1,616 linear feet; and
- Five (5) ephemeral streams that only flow during and immediately after precipitation events totaling 0.05 acres over 1,090 linear feet.

Table 4 includes the list of streams delineated and mapped within the Centennial Industrial Site, including the stream type, stream identification number which corresponds to the delineation figures shown in Appendix H, and size of each feature.

Table 4. Streams Delineated Within Centennial Industrial Site

No.	Stream Type	Wetland ID Number	Size (Acres)
1	Perennial Stream	Wolf Creek – 1	0.377
2	Intermittent Stream	I – 1	0.161
3	Intermittent Stream	I – 2	0.006
4	Ephemeral Stream	E – 1	0.002
5	Ephemeral Stream	E – 2	0.005
6	Ephemeral Stream	E – 3	0.015
7	Ephemeral Stream	E – 4	0.018
8	Ephemeral Stream	E – 5	0.011
8			**0.60**

A targeted review of site conditions within the central and eastern sections of the Centennial Industrial Site was conducted on August 27, 2020. The purpose of this review was to reevaluate site conditions for the potential presence of seasonal wetlands not previously mapped as part of the December 2018 and July 2019 field surveys. The additional site review did not identify any additional potential CWA regulated seasonal wetlands given those targeted areas contained a lack of the required indicators of wetland hydrology and hydric soils required by the Corps for such features to be regulated under the CWA. Therefore, no changes or updates to the mapping of "waters of the U.S.,' including wetlands, were made to the mapping of such features within the Centennial Site.

5.2 CNPS Ranked Plants and Special-Status Plant Species

CDFW's California Natural Diversity Database Biogeographic Information and Observation System (BIOS) 9 Quad search included the Grass Valley, Nevada City, North Bloomfield, Chicago Park, Colfax, Rough and Ready, Lake Combie, French Corral and Wolf 7.5-minute USGS quadrangles (CDFW, 2019a). Based on the results of the searches 23 CNPS ranked plants and special-status plant species were identified as occurring within the 9 Quad search. Ten of these plant species were dropped from further consideration due to a lack of suitable

habitat in the analysis area (Centennial Site), the Centennial Site being substantially outside of the known range and distribution for the plant species, or both (see the stand-alone Centennial Site Special Status Plant Survey Report developed by Wendy Boes Botanical Consultant, 2021). The plant species dropped from further consideration include the following:

- Jepson's onion (*Allium jepsonii*)
- Mosquin's clarkia (*Clarkia mosquinii*)
- Ahart's buckwheat (*Eriogonum umbellatum var. ahartii*)
- Jepson's coyote thistle (*Eryngium jepsonii)*
- Minute pocket moss (*Fissidens pauperculus*)
- Yosimite tarplant (*Jensia yosimitana)*
- Inundated bog club-moss (*Lycopodiella inundata)*
- Follett's monardella (*Monardella follettii*)
- Sticky pyrrocoma (*Pyrrocoma lucida*)
- Oval-leaved viburnum (*Viburnum ellipticum)*

The CNPS ranked plants and special-status plant species with at least a low potential to occur within the Centennial Site per the results of the 9 Quad search and CNDDB 5-mile buffer search are evaluated in the CNPS ranked plants and special-status plant table included in Appendix H. The CNPS ranked plants and special-status plant species field surveys were conducted at a time when all potentially occurring CNPS ranked plants and special-status plant species could be identified if they were present, with the exception of Butte County fritillary. A nearby reference population of finger rush was visited on June 24th, 2019 prior to commencing field surveys to ensure this species was still detectable, which was confirmed. No other reference sites were required to be visited given the botanists local knowledge of the other target species as part of the survey effort.

Only one state or federal listed plant species was identified within the Centennial Site: Pine Hill flannelbush (*Fremontodendron decumbens*). Two other unlisted species, neither of which is rare, threatened or endangered were also present: Humboldt lily (*Lilium humboldtii ssp. humboldtii*), and *Sierra Brodiaea (Brodiaea sierra)* which were each documented within the Centennial Site during the biological resource surveys completed in December 2018 and January, July, and August 2019 (see Appendix F). Special-status plant species, Cedar Crest popcornflower (*Plagiobothrys glyptocarpus* var. *modestus*), has a moderate potential to occur within the Centennial Site though it has not been identified within the Centennial Site. Stebbins' morning-glory (*Calystegia stebbinsii*), chaparral sedge *(Carex xerophila)*, and Red Hills soaproot *(Chlorogalum grandiflorum)* each have the potential to occur on the gabbro soils of the Dubakella and Secca-Rock complex soils though none of these species have been identified within the Centennial Site.

A description of the CNPS ranked plants and special-status plant species previously known to occur within 5 miles of the Centennial Site (CNDDB, 2019) are discussed below, as well as the Cedar Crest popcorn flower given the species was determined to have a moderate potential to occur within the Centennial Site though it has not been previously documented within 5 miles of the Centennial Site (see Appendix J for a CNDDB 5-mile buffer figure). A description of CNPS ranked plants and special-status plant species with a low likelihood of occurring within the Centennial Site is located in Appendix I.

Sierra arching sedge (Carex cyrtostachya) – California Native Plant Society List 1B.2

Sierra arching sedge inhabits lower montane mesic coniferous forest, meadows and seeps, marshes and swamps, riparian forests (margin), from 2,000- 4,460 feet. Within the known distributional and elevational range for this species, though nearest known occurrence 16 miles to the north. The blooming period for this species is May through August. This species was recently described so the full extent of its range and distribution are unlikely yet known. Suitable marginal habitat is present within the mesic forests located in the Centennial Site; however, the species was not identified during field surveys conducted in December 2018 or in July and August 2019. Therefore, the potential for this species to occur within the Centennial Site is considered low.

Scadden Flat checkerbloom (Sidalcea stipularis) – Federally and CA State Endangered and California Native Plant Society List 1B.1

Scadden Flat checkerbloom inhabits marshes and swamps between July and August. It is found in wet montane marshes fed by springs, normally between 2,295 and 2,395 feet above MSL. This species blooming period is July through August. Suitable habitat for this species occurs within the perennial marsh wetlands in the Centennial Site. The species has been documented 3 miles to the west near the Nevada County Fairgrounds from a report in 1973. However, this species was not documented during the 2006 surveys that included the Centennial Site. Additionally, the species was not identified during field surveys conducted in December 2018 or in July and August 2019. This species has a low potential to occur within the Centennial Site.

Pine Hill flannelbush (Fremontodendron decumbens) – Federally Endangered and CA State Rare and California Native Plant Society List 1B.2

Pine Hill flannelbush is known to occur in serpentine and gabbro soils in chaparral and cismontane woodlands, at elevations ranging from 1,390 to 2,495 feet. It is known from twelve occurrences in Eldorado, Nevada and Yuba Counties in the foothills of the Sierra Nevada. It is threatened by development and alteration of the fire regime (CNPS 2019a).

Pine Hill flannelbush blooms April to July, though is at its peak in June. It is a branched, spreading shrub that grows to 4 feet tall. The leaves are lobed, and dense star-shaped (stellate) hairs cover the leaves and younger twigs and branches. It has showy orange to

reddish-brown flowers. Pine Hill flannelbush is thought to be fire dependent, with studies resulting in only 2 percent of seed germination in the absence of fire (Boyd 1987 in USFWS 2002). The Centennial Site has highly suitable habitat in the Dubekella and Secca-Rock Outcrop complex soil series, a soil derived from gabbrodiorite parent material.

The known occurrence of Pine Hill flannelbush within the Centennial Site was located in December 2018 and tentatively identified due to its being an evergreen shrubby plant with characteristics (leaf morphology, plant habit, seeds, fruits) that allowed it to be somewhat confidently identified at this time of year. The identification was verified during its blooming period, and the whole of the population that occurs in the study area was mapped in June-July of 2019. Sixty individuals were counted in the study area, all mature, flowering plants. No seedling or juvenile individuals were encountered. They occupied an absolute area of 0.22 acres over approximately 4.5 acres in the southern portion of the study area, with one plant occurring disjunct from main population, in the center of the study area. The population extends beyond the Centennial Site and into adjacent private properties. The population was not mapped or documented beyond the Centennial Site.

A recovery plan has been developed for this species (USFWS 2002). The Recovery Plan states that the only verified location of this plant is near Pine Hill in western El Dorado County, and that the reported occurrences of this plant in Nevada County may be erroneous. It states:

"Although there are some reports of F. californicum ssp. decumbens occurring in some small scattered populations in Yuba or Nevada County, other reports describe these individuals as aberrant F. californicum ssp. californicum (California flannelbush)." (Recovery Plan pp. II-13)

Genetic work has been conducted by Dr. Shannon Still from U.C. Davis that has confirmed that Pine Hill flannelbush is known to occur in Nevada County, but this work is still in press (Bill Wilson, personal communication 2019). During protocol level field surveys conducted for the species within the Centennial Site in 2019, the plants in the population were confirmed to have morphological characteristics, the floral and habit, of the Pine Hill flannelbush. Based on the unpublished genetic results and the supporting morphological characteristics, we are assuming the identification of Pine Hill flannelbush within the Centennial Site with it to be confirmed prior to the implementation of any disturbance.

Seed collection was conducted on August 21, 2019 with Brett Hall[1] from the UC Santa Cruz Arboretum as a part of the UC Santa Cruz Native Plant Program. Six plants on the northern edge of the distributional limit of the population were selected for seed

[1] UCSC Arboretum has a MOU with CDFW permitting collecting of California Rare, Threatened, and Endangered Plants (10-01 M).

collection as there is the greatest potential for these individuals to be impacted. The seed had largely dispersed, but approximately 30-100 seeds were collected per plant, which was approximately 1 to 2 seeds per fruit. The seeds will be cleaned and stored in the seedbank at UC Santa Cruz for either future propagation efforts, or as a part of seed banking efforts. However, the USFWS continues under the assumption that the Pine Hill flannelbush in Nevada County are not the listed entity (USFWS, 2019).

Stebbins' morning glory (Calystegia stebbinsii) – CA State and Federally Endangered and California Native Plant Society List 1B.1

Stebbins' morning glory inhabits chaparral and cismontane woodland. It is found in red clay soils of the pine hill formation on gabbro or serpentine soils in open areas, normally between 980 and 4,330 feet above MSL. The blooming period for this species is April to July. Potential for the occurrence of this species in openings and under chaparral in gabbroic soils within the Centennial Site is considered low. The species is known from a location 4 miles to east of the Centennial Site on gabbroic chaparral on Oceola Ridge. This species was not identified during field surveys conducted in December 2018 or July and August 2019.

Cedar Crest popcorn flower (Plagiobothrys glyptocarpus var. modestus) – California Native Plant Society List 3 (not rare or threatened)

The species is known to occur within cismontane woodland as well as valley and foothill grasslands (mesic), from 2,850-2,855 feet. This species is known from a historic collection potentially from nearby Cedar Ridge. The species is also known from historic collections in Nevada City. Suitable habitat for this species is present within the woodland areas within the Centennial Site. This species was not identified during field surveys conducted in December 2018 or July and August 2019 surveys; however, the blooming period for this species is April to June. The surveys were not conducted during the blooming period for this species. This species has a moderate potential to occur within the Centennial Site.

Dubious pea (Lathyrus sulphureus var. argillaceus) – California Native Plant Society List 3 (not rare or threatened)

Dubious pea inhabits lower and upper montane coniferous forest and cismontane woodlands, normally between 490 and 3,050 feet above MSL. This species has the potential to occur in forested areas of the Centennial Site. The species is known to occur within 3 miles of the Centennial Site. The species is also known from a location approximately 5 miles to the southwest near Wolf Mountain. Plant list from the 2006 surveys of the Centennial Site includes a *Lathyrus sulfureus*, with no variety designation (ESA, 2006). The blooming period for this species is April to May. The surveys were not conducted during the blooming period for this species. This species was not identified during field surveys conducted in December 2018 or July and August 2019 surveys. This species has a low potential to occur within the Centennial Site.

Finger rush (Juncus digitatus) – California Native Plant Society List 1B.1

Finger rush inhabits open chaparral habitat surrounded by mixed oak/conifer woodland on low gradient, north-facing, and vernally moist slopes. This species also associates with sandy clay loam soil within substrates underlain by granitic bedrock. This species is found between 2,165 and 2,590 feet above MSL. There is potential for the occurrence of this species in gravelly, seasonally moist openings within the Centennial Site. The species is known less than one mile to the north near the intersection of Idaho-Maryland Road and Brunswick Road. The surveys were not conducted during the blooming period for this species. the blooming period for this species is May to June. This species was not identified during field surveys conducted in December 2018 or July and August 2019 surveys. This species has a low potential to occur within the Centennial Site.

Brownish beaked-rush (Rhynchospora capitellata) – California Native Plant Society List 2B.2

Brownish beaked-rush inhabits meadows and seeps, marshes and swamps, and it is found in upper and lower montane coniferous forests, normally between 145 and 6,560 feet above MSL. This species blooms from July through August and is normally identified on mesic sites and has been identified within 3 miles west of the Centennial Site in a marshy area along the northwest corner of the Nevada County Fairgrounds along Hwy 20 in 1973. The species was not identified during field surveys conducted in December 2018 or July and August 2019. However, suitable habitat for this species occurs within the perennial marsh wetlands in the Centennial Site. The potential for the species to occur within the Centennial Site is considered low.

Chaparral sedge (Carex xerophila) – California Native Plant Society List 1B.2

Chaparral sedge inhabits openings within chaparral habitat, cismontane woodland, and lower montane coniferous forests. This species is found in areas containing serpentine and gabbroic microhabitats between 1,400 and 2,525 feet above MSL. This species has been identified approximately 4 miles of the Centennial Site on Oceola Ridge in gabbroic chaparral. There is a low potential for occurrence of this species in openings and under chaparral in gabbroic soils within the Centennial Site. The blooming period for this species is March to June. The surveys were not conducted during the blooming period for this species. This species was not identified during field surveys conducted in December 2018 or July and August 2019 surveys.

Red Hills soaproot (Chlorogalum grandiflorum) – California Native Plant Society List 1B.2

Red Hills soaproot is found in chaparral, cismontane woodland, lower montane coniferous forests on serpentinite and gabbroic substrates, between 800 and 5,545 feet above MSL. The species has potential for occurrence within the Centennial Site in openings and under chaparral in gabbroic soils. (CNDDB 2019); however, it is known over

10 miles south in Bunch Canyon south of Colfax, with no known occurrences to north. This species was not identified during field surveys conducted in December 2018 or July and August 2019 surveys; however, the blooming period for this species is May to June. The surveys were not conducted during the blooming period for this species. The species was not documented within 5 miles of the Centennial Site. This species has a low potential to occur within the Centennial Site.

Sierra blue grass (Poa sierra) – California Native Plant Society List 1B.3

Sierra blue grass is found in openings in lower montane coniferous forest, between 1,195 and 4,920 feet above MSL and blooms between April and July. There is only marginal suitable habitat for this species in the Centennial Site, primarily in the montane hardwood and montane hardwood-conifer forests, and in the forested areas along the main stem of Wolf Creek. The species was not documented within 5 miles of the Centennial Site (CNDDB 2019); however, it has been documented at Steephollow Creek in a collection from 1964. This species was not identified during field surveys conducted in December 2018 or July and August 2019 surveys. This species has a low potential to occur within the Centennial Site.

Cantelow's lewisia (Lewisia cantelovii) – California Native Plant Society List 1B.2

Cantelow's lewisia is found in moist, granitic areas in broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest mesic, sometimes serpentinite seeps between 1,080 and 4,495 feet above MSL. The species blooms between May and October. There is potential for occurrence in any rocky outcrops with seeps within the Centennial Site. There are records for this species in the Middle Yuba and South Yuba river canyons within 7 miles of the Centennial Site. The preferred habitat for this species in the Centennial Site has been disturbed and is of reduced quality. The species has not been previously documented within 5 miles of the Centennial Site (CNDDB, 2019). This species was not identified during field surveys conducted in December 2018 or July and August 2019 surveys. This species has a low potential to occur within the Centennial Site.

Butte County fritillary (Fritillaria eastwoodiae) – California Native Plant Society List 3.2 (not rare or threatened)

Butte County fritillary is found in openings in chaparral, cismontane woodland, and lower montane coniferous forest, sometimes serpentinite between 160 and 4,920 feet above MSL. The species blooms between March and June and there is potential for occurrence in open areas in the Centennial Site. There is a 1979 record for this species on the south side of the South Yuba River canyon approximately 7 miles north of the Centennial Site, and other occurrences on the Washington Ridge. The species was not documented within 5 miles of the Centennial Site (CNDDB, 2019). Surveys were not conducted during the appropriate phenological period for this species; however, fruits would have been

visible for individuals from this genus and they were not observed during 2019 field surveys. The potential for this species to occur within the Centennial Site is considered low.

5.3 CNPS List 4 Species *(not rare or threatened)* Identified within the Centennial Site

Sierra brodiaea (Brodiaea sierra) - Federal Status: not listed; State Status: not listed; CNPS Status: 4.3

Sierra brodiaea is known to occur on serpentinite or gabbroic soils in chaparral, cismontane woodland, land lower montane coniferous forests. It is known from Butte, Nevada and Yuba Counties at elevations ranging between 164 and 3,215 feet above MSL. It is potentially threatened by vehicles, road maintenance, widening, development, illegal dumping, horticultural collecting and hydrological alterations (CNPS 2019). Sierra brodiaea is a perennial bulb that blooms May through August. It is an herbaceous plant, with a broad umbel of purple, fluted flowers. The Centennial Site has highly suitable habitat in the Secca-Rock Outcrop complex soil series, a soil derived from gabbro-diorite parent material. A large population with thousands of individuals covering almost a quarter of the Centennial Site was mapped during 2019 field surveys (see Appendix F).

Humboldt lily (Lilium humboldtii ssp. humboldtii) - Federal Status: not listed; State Status: not listed; CNPS Status: 4.2

Humboldt lily is known to occur in openings in chaparral, cismontane woodland and lower montane coniferous forests. It is known from Amador, Butte, Calaveras, El Dorado, Fresno, Mariposa, Nevada, Placer, Tehama, Tuolumne, and Yuba Counties at elevations ranging between 295 and 4,200 feet above MSL. Its threats include development, urbanization, horticultural collecting, deer browsing, nonnative plants, and road maintenance (CNPS, 2019). Humboldt lily is a perennial bulb that blooms May through August. It can reach 7 to 8 ft in height and has bright orange lily flowers. The Centennial Site has suitable habitat and a single occurrence consisting of 10 individuals in an area less than 110 sq. feet was documented in the Centennial Site (see Appendix F).

5.4 Special-Status Wildlife Species

The CNDDB database 5-mile buffer search revealed six (6) special-status wildlife species that have previously been identified and mapped within 5 miles of the Centennial Site (see Appendix J). The species previously identified within 5 miles of the Centennial Site include:

- California black rail
- Cooper's hawk

- Coast horned lizard
- Western bumble bee
- Foothill yellow-legged frog
- Townsend's big-eared bat

None of these species were identified within the Centennial Site during biological resources surveys conducted in December 2018 and July 2019 surveys. In addition, no USFWS Designated Critical Habitat (DCH) has been mapped by USFWS for any federally listed species within the vicinity of the Centennial Site.

Given the presence of perennial freshwater marsh wetlands within the eastern section of the Centennial Site and the main stem of Wolf Creek along the northern boundary of the Centennial Site, western pond turtle and California red-legged frog are also included as special-status aquatic wildlife species with the potential to occur within the Centennial Site. The following is a description of the special-status wildlife species previously identified within 5 miles of the Centennial Site. In addition, the western pond turtle and California red-legged frog are also evaluated given the presence of perennial streams and marsh wetlands within the Centennial Site. Additionally, two species of bat, the hoary bat (*Lasiurus cinereus*) and the pallid bat (*Antrozous pallidus*) are included in the assessment below given the have a low potential to occur within the Centennial Site; however, neither bat species has been previously identified within 5 miles of the Centennial Site (CDFW 2019a).

Townsend's big-eared bat (Corynorhinus townsendii) – No state or federal listing; CA State Species of Concern

The Townsend's Big-eared bat species inhabits lower montane coniferous and mixed conifer forest habitats where abandoned buildings and structures occur for roosting. This species has been identified within 3 miles southeast of the Centennial Site within an abandoned building at the Empire Mine State Historic Park. The species was not identified during field surveys and only limited suitable roosting sites for this species occurs given the lack of abandoned structures located within the Centennial Site. The existing decant tower, which is located in the northwest portion of the Centennial Site, may contain suitable roosting habitat for this species. The potential for this species to occur within the Centennial Site is considered low.

Coast horned lizard (Phrynosoma blainvillii) – No state or federal listing; CA State Species of Concern

The coast horned lizard occurs in open sandy areas, scattered low bushes, chaparral, manzanita, and oak woodland habitats. It is found in the Sierra Nevada foothills from

Butte County to Kern County and throughout the central and southern California coast. Coast horned lizards forage on the ground in open areas, usually between shrubs and often near ant nests. The species relies on camouflage for protections. Predators and extreme heat are avoided by burrowing into loose soil. Periods of inactivity and winter hibernation are spent burrowed in the soil under surface objects such as logs or rocks, in mammal burrows, or in crevices (Zeiner et al., 2000). They inhabit mostly open country, especially sandy areas, washes, flood plains and wind-blown deposits in a wide variety of habitats and can be found at elevations up to 8,000 feet (2,438 meters) (CaliforniaHerps, 2014).

This species has been documented between 3 and 5 miles of the Centennial Site to the west, northwest, and southwest. There is potential suitable habitat within the sandy and rocky locations within the Centennial Site. As the Centennial Site includes the required open areas of exposed, sandy soils for this species, this species has the potential to occur within the site. No coast horned lizards were observed during the December 2018 or early January 2019 site visits or during reconnaissance-level biological surveys conducted in July 2019 within the Centennial Site for special-status wildlife species. The potential for this species to occur within the Centennial Site is considered moderate.

Western pond turtle (Emys marmorata) – No state or federal listing; CA State Species of Concern

Western pond turtles associate with permanent ponds, lakes, streams, irrigation ditches, and permanent pools along intermittent streams. They are most commonly associated with permanent or nearly permanent water in a wide variety of habitats. This species requires basking sites such as partial submerged logs, rocks, mats of floating vegetation, or open mud banks. During the spring or early summer, females move overland up to 325 ft to find suitable sites for egg laying. The main stem of Wolf Creek, a perennial stream, and the large marsh wetlands in the eastern section of the Centennial Site containing perennial water/ponding are considered suitable habitat for this species.

This species has not been previously identified within 5 miles of the Centennial Site and was not identified during the December 2018 or early January 2019 site visits or during reconnaissance-level biological surveys conducted in July 2019 within the Centennial Site for special-status wildlife species. The potential for this species to occur within the Centennial Site is considered high.

Foothill yellow-legged frog (Rana boylii) – Candidate as Threatened under CESA

Foothill yellow-legged frogs inhabit partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. The species requires at least some cobble-sized substrate for egg laying. The species requires at least 15 weeks to attain metamorphosis. This species has been identified within 5 miles of the Centennial Site. The main stem of Wolf Creek is considered suitable habitat for this species. This species has not been

previously identified within 5 miles of the Centennial Site and was not identified during the December 2018 or early January 2019 site visits or during reconnaissance-level biological surveys conducted in July 2019 within the Centennial Site for special-status wildlife species. Protocol-level surveys (Visual Encounter Surveys or VES Surveys per the CDFW protocol) for this species were not implemented within the Centennial Site as part of this reporting. The potential for this species to occur within the Centennial Site is considered very low.

CA red-legged Frog (Rana aurora draytonii) – Federal Threatened and CA State Species of Concern

CA red-legged frog (CRLF) is known in Nevada County in the North Bloomfield USFS Quadrangle within the Rock Creek watershed. CRLF has not been identified within 5 miles of the Centennial Site and designated critical habitat for this federally threatened species has not been mapped for this species within the vicinity of the Centennial Site. Potential suitable reproductive habitat for this species may occur within the large marsh wetlands with perennial water/ponding in the eastern section of the Centennial Site. If suitable breeding locations are located within 1.25 miles of the Centennial Site and connected by barrier-free dispersal habitat that is at least 300 feet in width, then suitable dispersal habitat could be located within the Centennial Site. This species has not been previously identified within 5 miles of the Centennial Site and was not identified during the December 2018 or early January 2019 site visits or during reconnaissance-level biological surveys conducted in July 2019 within the Centennial Site for special-status wildlife species. Protocol-level surveys for this species were not implemented within the Centennial Site as part of this reporting.

Given that CRLF was not identified during any of the site surveys, and have not been identified in the Grass Valley USGS Quadrangle, the watershed associated with the Centennial Site, or within 5 miles of the Centennial Site, the potential for this species to occur is considered extremely low.

California black rail (Laterallus jamaicensis coturiculus) – CA State Threatened

California black rail inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. The species requires water depths of approximately 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat. The species has been identified within 5 miles to the southeast and southwest of the Centennial Site. Suitable habitat for this species occurs within the large marsh wetlands within the eastern section of the Centennial Site where there is permanent ponding of water and dense vegetation. This species was not identified during the December 2018 or early January 2019 site visits or during reconnaissance-level biological surveys conducted in July 2019 within the Centennial Site for special-status wildlife species. Protocol-level surveys for this species were not implemented within the

Centennial Site as part of this reporting. The potential for this species to occur within the Centennial Site is considered very low.

Cooper's hawk (Accipiter cooperii) – CDFW Watch List, MBTA Protected

Cooper's hawks are forest and woodland birds. These hawks are a regular sight in parks, quiet neighborhoods, over fields, at backyard feeders, and even along busy streets if there are trees present. The species has been documented successfully nesting approximately 5 miles to the northeast of the Centennial Site in 2014. The species is known to occur and nest in Sierra mixed conifer forest. Though this habitat type does not occur within the Centennial Site, the species has the potential to occur and nest within the ponderosa pine and montane hardwood habitats within the Centennial Site. Suitable nesting and foraging habitat occur within the forested areas of the Centennial Site.

This species was not identified during the December 2018 or early January 2019 site visits or during reconnaissance-level biological surveys conducted in July 2019 within the Centennial Site for special-status wildlife species. The potential for this species to occur within the Centennial Site is considered moderate.

Western bumble bee (Bombus occidentalis occidentalis) – Candidate for CESA Listing as Endangered

The western bumble bee is a CESA Candidate for listing as Endangered and is under review by the USFWS; however, the species was last documented within 5 miles of the Centennial Site in 1968 (considered its historical distribution) and is currently only known (current distribution defined by CDFW as known locations where the species has been identified between 2003 – 2017) from a few locations in the Sierra Nevada, none of which are within western Nevada County where the Centennial Site is located (CDFW 2019b). Therefore, it is unlikely the species would occur within the Centennial Site.

Hoary bat (*Lasiurus cinereus*) and Pallid bat (*Antrozous pallidus*)

The hoary bat is considered a Medium Risk species by the Western Bat Working Group and the pallid bat is a CDFW species of special concern. Neither species has been previously identified within 5 miles of the Centennial Site (CDFW 2019a). However, the Centennial Site does provide roosting habitat for both species within the riparian and woodlands located within the Centennial Site. Therefore, if either species is present within the Centennial Site during the proposed disturbance, bat day roosts could be impacted.

Nesting raptors and other migratory bird species - Protected under CA State F&G Code Sections 3503, 3503.5, and 3800

There is a moderate to high potential for nesting raptors and other protected nesting bird species protected under the CDFG Codes 3503, 3503.5, and 3800 to occur within the Centennial Site. The Centennial Site contains suitable nesting habitat for bird species

protected under those CDFG Codes, such as tree nesting species (raptors) and ground nesting species like the spotted towhee (*Pipilo maculatus*) and dark-eyed junco (*Junco hyemalis*).

Critical Deer Habitat

Known migratory deer ranges outlined in the Nevada County General Plan was reviewed for deer migration corridors, critical range, and critical fawning areas. The Centennial Site is not located in any known major deer corridors, known deer holding areas, or critical deer fawning area. Per the Migratory Deer Ranges Nevada County General Plan map, the Centennial Site is located in an area of potential Deer Winter Range. The field surveys did not record any observations of deer. The Centennial Site does not contain any known major deer migration corridors, known deer holding areas, nor critical deer fawning areas.

Protected Oak Resources by the State of California and Nevada County

The Nevada County Land Use and Development Code, Chapter II; Zoning Regulations, Section L-II 4.3.18 for Trees. Landmark trees are any native oak tree species (*Quercus* species) with a trunk diameter of 36" or greater at diameter breast height (dbh or 4'6"). Identifies landmark groves as hardwood tree groves with 33+% canopy closure, or groves whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal government. Projects shall be approved only when they do not remove or disturb defined trees or groves, unless a Management Plan is prepared consistent with the Nevada County Land Use and Development Code for such trees. This Biological Report does not include an assessment of or proposed mitigation for potential impacts to such protected oak resources given the Centennial Site does not contain protected oak resources per the Nevada County Land Use and Development Code, which would require such an assessment and Management Plan.

Additionally, the Centennial Area does not contain protected oak resources per the State of California oak woodlands protections set forth in Public Resources Code Section 21083.4. Though the Centennial Area contains several species of native oak trees in very low densities, the conifer and hardwood woodlands within the Centennial Area are dominated by ponderosa pine, incense cedar, Douglas fir, and madrone. The most dominant native oak tree within the Centennial Area is the California black oak and it was not identified in the densities required to grant them protection under State of California law (10% canopy cover requirement) or under the Nevada County Land Use and Development Code (minimum 33% canopy cover). Therefore, protected oak resources are not discussed further in this Biological Report.

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Appendix A

Project Overview Area Figure

Figure. Centennial Industrial Site

Grass Valley, CA
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26

Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983

SCALE: 1 inch = 300 feet

Legend

Centennial Industrial Site
Study Area, 56.41 ac.

Appendix B

USDA Soils Map

Map Scale: 1:4,360 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Nevada County Area, California
Survey Area Data: Version 11, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 20, 2017—Aug 8, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ct	Cut and fill land	1.1	2.2%
Pr	Placer diggings	43.2	76.4%
RrE	Rock outcrop-Dubakella complex, 5 to 50 percent slopes	1.8	3.1%
ScE	Secca-Rock outcrop complex, 2 to 50 percent slopes	10.31	18.4%
Totals for Area of Interest		**56.41**	**100.0%**

Appendix C

National Wetland Inventory (NWI) Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI Centennial Industrial Site Project Area

December 7, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Appendix D

Vegetation Community Map

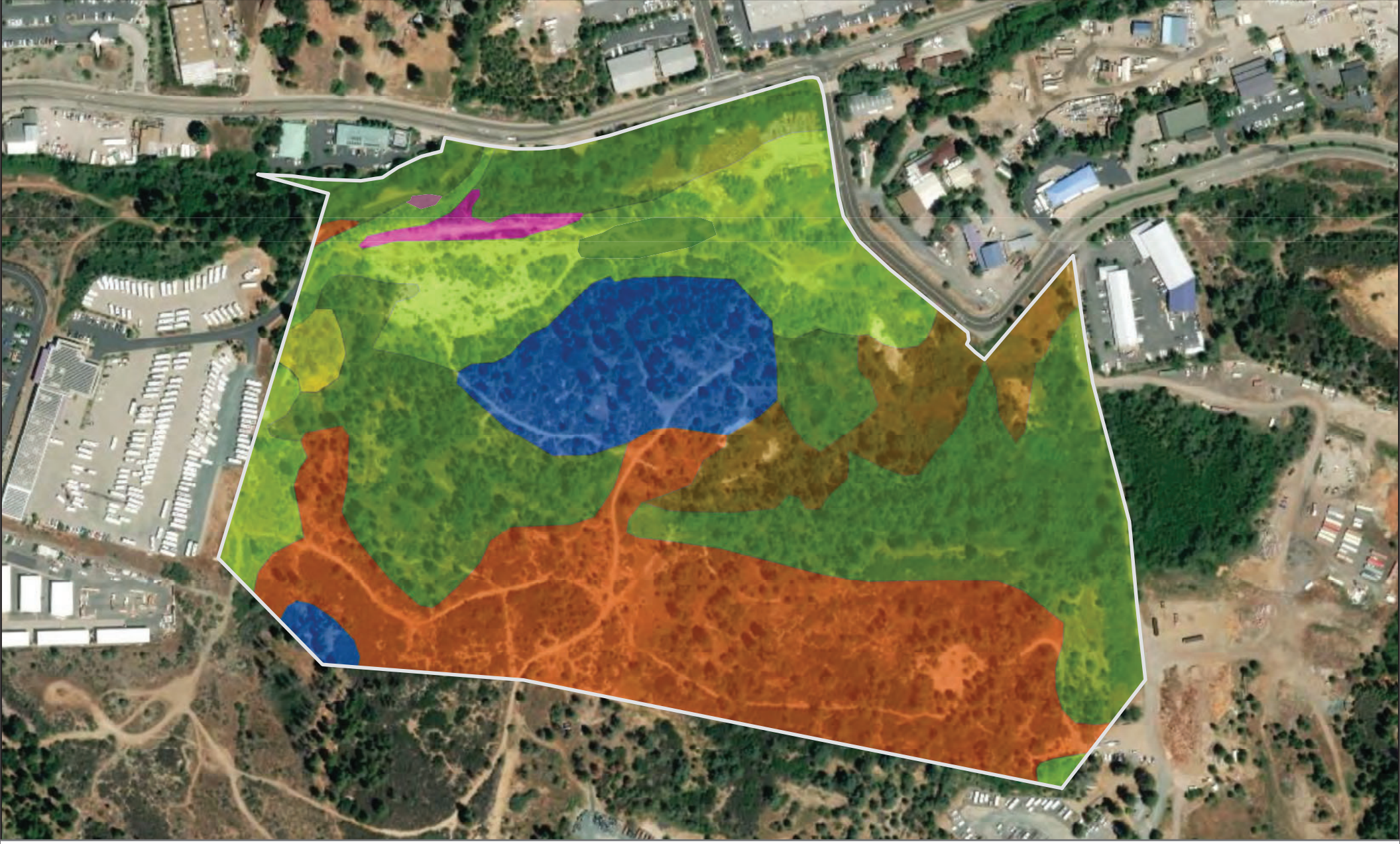


Figure. Vegetation Communities within the Centennial Industrial Site

Legend

- Centennial Industrial Site Study Area

Vegetation Type

- Annual Grassland
- Fresh Emergent Wetland
- Mixed Chaparral
- Montane Hardwood-Conifer
- Montane Hardwood
- Montane Riparian
- Wet Meadow

SCALE: 1 inch = 300 feet

Grass Valley, CA
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26

Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983

Appendix E

Plants Observed During Site Surveys

VASCULAR PLANTS OCCURRING IN CENTENNIAL SITE

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
Acer macrophyllum	Bigleaf maple	native	Tree	-	FACU	-
Agoseris retrorsa	Spear leaved agoseris	native	perennial herb	-	-	-
Agrostis gigantea	Creeping bentgras	non-native	perennial grass	-	FAC	-
Ailanthus altissima	Tree of heaven	non-native (invasive)	Tree	-	FACU	Moderate
Aira caryophyllea	Silvery hairgrass	non-native (invasive)	annual grass	-	FACU	-
Allium amplectens	Narrow leaved onion	Native	perennial herb (bulb)	-	-	-
Alnus rhombifolia	White alder	Native	Tree	-	FACW	-
Ammi visnaga	Bisnaga	non-native	annual, biennial herb	-	-	-
Anaphalis margaritacea	Pearly everlasting	Native	perennial herb	-	FACU	-
Andropogon virginicus var. virginicus	Broomsedge bluestem	non-native	perennial grass	-	FAC	-
Arbutus menziesii	Madrono	Native	Tree	-	-	-
Arctostaphylos mewukka ssp. mewukka	Indian manzanita	Native	Shrub	-	-	-
Arctostaphylos viscida ssp. viscida	Smooth white leaf manzanita	Native	tree, shrub	-	-	-
Artemisia douglasiana	California mugwort	Native	perennial herb	-	FACW	-
Asclepias sp.	-	-	-	-	-	-
Asclepias speciosa	Showy milkweed	Native	perennial herb	-	FAC	-
Avena sp.	-	-	-	-	-	-
Baccharis pilularis	Coyote brush	Native	Shrub	-	-	-
Berberis aquifolium var. repens	Creeping oregon grape	Native	Shrub	-	FACU	-
Brodiaea minor	Low brodiaea	Native	perennial herb	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
Brodiaea sierrae	Sierra foothills brodiaea	Native	perennial herb	Rank 4.3	-	-
Bromus hordeaceus	Soft chess	non-native (invasive)	annual grass	-	FACU	Limited
Bromus madritensis	Foxtail chess, foxtail brome	non-native	annual grass	-	FACU	-
Calocedrus decurrens	Incense cedar	Native	Tree	-	-	-
Calycadenia multiglandulosa	Rosin weed	Native	annual herb	-	-	-
Carex feta	Green sheathed sedge	Native	perennial grasslike herb	-	FACW	-
Ceanothus cuneatus	Buck brush	Native	Shrub	-	-	-
Ceanothus integerrimus	Deer brush	Native	Shrub	-	-	-
Ceanothus lemmonii	Lemmon's ceanothus	Native	Shrub	-	-	-
Centaurea solstitialis	Yellow starthistle	non-native (invasive)	annual herb	-	-	High
Centaurium tenuiflorum	Slender centaury	non-native	annual herb	-	FACW	-
Centranthus sp.	-	-	-	-	-	-
Centromadia fitchii	Spikeweed	Native	annual herb	-	FACU	-
Chlorogalum pomeridianum	Amole	Native	perennial herb	-	-	-
Chondrilla juncea	Skeleton weed	non-native (invasive)	perennial herb	-	-	Moderate
Cichorium intybus	Chicory	non-native	perennial herb	-	FACU	-
Cirsium vulgare	Bullthistle	non-native (invasive)	perennial herb	-	FACU	Moderate
Cornus nuttallii	Mountain dogwood	Native	Shrub	-	FACU	-
Cornus sericea	American dogwood	Native	Shrub	-	FACW	-
Cortaderia jubata	Andean pampas grass	non-native (invasive)	perennial grass	-	FACU	High
Crataegus monogyna	Hawthorn	non-native (invasive)	Shrub	-	FAC	Limited
Croton setiger	Turkey-mullein	Native	perennial herb	-	-	-
Cynodon dactylon	Bermuda grass	non-native (invasive)	perennial grass	-	FACU	Moderate
Cynosurus echinatus	Dogtail grass	non-native (invasive)	annual grass	-	-	Moderate
Cyperus eragrostis	Tall cyperus	Native	perennial grasslike herb	-	FACW	-
Dactylis glomerata	Orchardgrass	non-native (invasive)	perennial grass	-	FACU	Limited

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
Danthonia californica	California oatgrass	Native	perennial grass	-	FAC	-
Deschampsia elongata	Hairgrass	Native	perennial grass	-	FACW	-
Elymus caput-medusae	Medusa head	non-native	annual grass	-	-	-
Elymus elymoides	Squirrel tail grass	Native	perennial grass	-	FACU	-
Elymus hispidus	Intermediate wheatgrass	non-native	perennial grass	-	-	-
Epilobium sp.	-	-	-	-	-	-
Epipactis gigantea	Stream orchid	Native	perennial herb	-	OBL	-
Eriodictyon californicum	Yerba santa	Native	Shrub	-	-	-
Eriophyllum lanatum	Wooly sunflower	Native	perennial herb	-	-	-
Euthamia occidentalis	Western goldenrod	Native	perennial herb	-	FACW	-
Festuca arundinacea	Reed fescue	non-native (invasive)	perennial grass	-	FAC	Moderate
Festuca idahoensis	Blue fescue	Native	perennial grass	-	FACU	-
Festuca microstachys	Small fescue	Native	annual grass	-	-	-
Ficus sp.	-	-	-	-	-	-
Frangula californica ssp. tomentella	Hoary coffeeberry	Native	Shrub	-	-	-
Frangula rubra	Red buckthorn	Native	Shrub	-	-	-
Fremontodendron decumbens	Pine hill flannelbush	Native	Shrub	FE, SR, Rank 1B.2	-	-
Galium porrigens	Climbing bedstraw	Native	vine, shrub	-	-	-
Gamochaeta sp.	-	-	-	-	-	-
Garrya fremontii	Fremont's silk tassel	Native	Shrub	-	-	-
Grindelia camporum	Gumweed	Native	perennial herb	-	FACW	-
Grindelia sp.	-	-	-	-	-	-
Hedera helix	English ivy	non-native (invasive)	vine, shrub	-	FACU	-

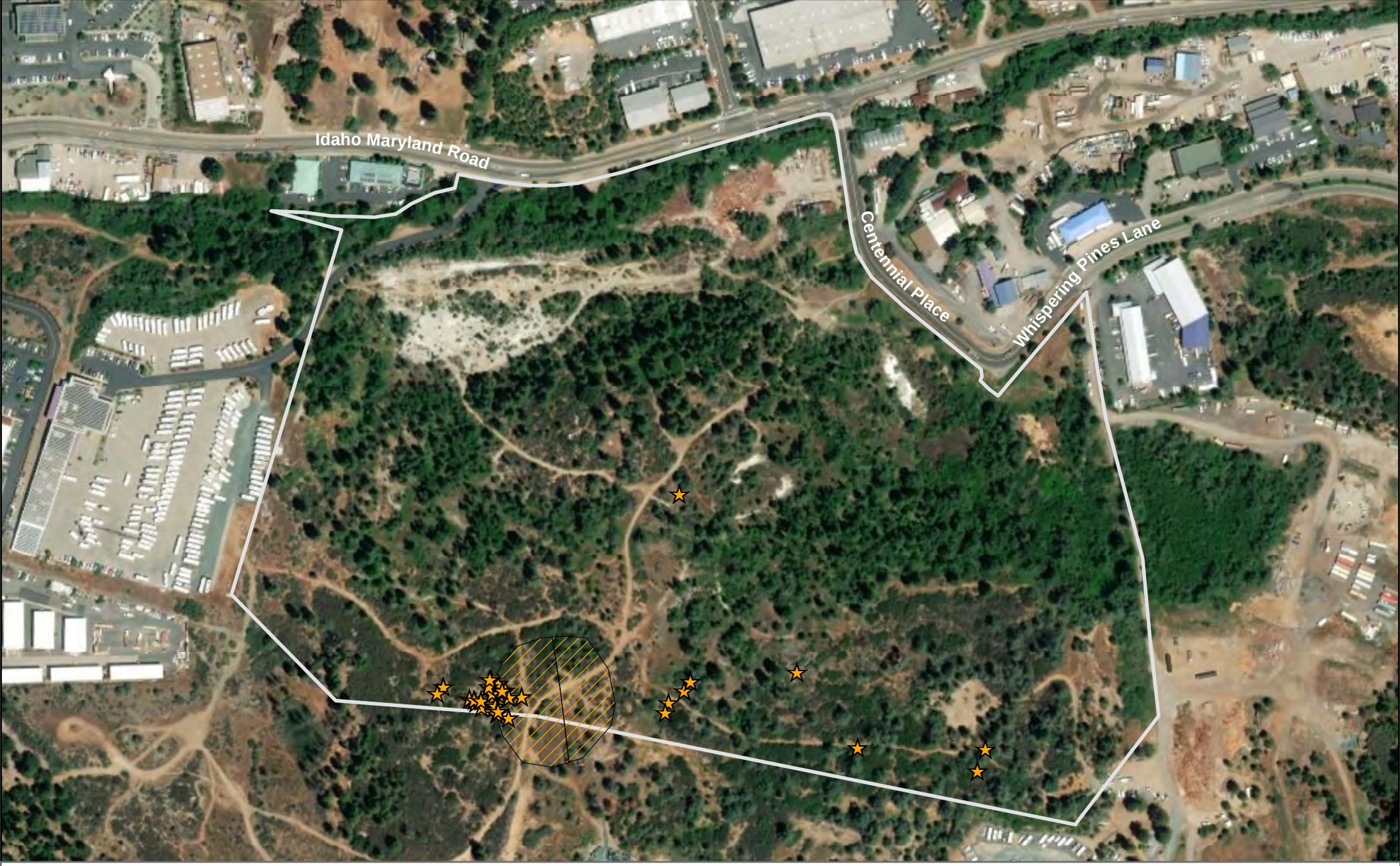
Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
Hemizonella minima	Opposite leaved tarweed	Native	annual herb	-	-	-
Hesperocyparis macnabiana	Macnab cypress	Native	tree, shrub	-	-	-
Hirschfeldia incana	Mustard	non-native (invasive)	perennial herb	-	-	Moderate
Holcus lanatus	Common velvetgrass	non-native (invasive)	perennial grass	-	FAC	Moderate
Hypericum perforatum ssp. perforatum	Klamathweed	non-native	perennial herb	-	FACU	-
Hypochaeris radicata	Hairy cats ear	non-native (invasive)	perennial herb	-	FACU	Moderate
Juncus articulatus ssp. articulatus	Jointed rush	Native	perennial grasslike herb	-	OBL	-
Juncus balticus ssp. ater	Baltic rush	Native	perennial grasslike herb	-	FACW	-
Juncus confusus	Colorado rush	Native	perennial grasslike herb	-	FAC	-
Juncus effusus ssp. pacificus	Pacific rush	Native	perennial grasslike herb	-	FACW	-
Juncus trilocularis	-	Native	annual grasslike herb	-	-	-
Lactuca serriola	Prickly lettuce	non-native (invasive)	annual herb	-	FACU	-
Lathyrus latifolius	Sweet pea	non-native	perennial herb	-	-	-
Leontodon saxatilis	Hawkbit	non-native	annual herb	-	FACU	-
Leucanthemum vulgare	Oxe eye daisy	non-native (invasive)	perennial herb	-	FACU	Moderate
Lilium humboldtii ssp. humboldtii	Humboldt lily	Native	perennial herb	Rank 4.2	-	-
Lonicera hispidula	Pink honeysuckle	Native	vine, shrub	-	FACU	-
Lonicera interrupta	Chaparral honeysuckle	Native	vine, shrub	-	-	-
Lotus corniculatus	Bird's foot trefoil	non-native (invasive)	perennial herb	-	FAC	-
Lysimachia arvensis	Scarlet pimpernel	non-native	annual herb	-	FAC	-
Madia gracilis	Gumweed	Native	annual herb	-	-	-
Melica californica	California melic	Native	perennial grass	-	-	-
Melilotus albus	White sweetclover	non-native (invasive)	annual, biennial herb	-	-	-
Muhlenbergia rigens	Deergrass	Native	perennial grass	-	UPL	-

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
Panicum sp.	-	-	-	-	-	-
Parthenocissus sp.	-	-	-	-	-	-
Penstemon heterophyllus	Foothill penstemon	Native	perennial herb	-	-	-
Pickeringia montana	Chaparral pea	Native	Shrub	-	-	-
Pinus ponderosa	Yellow pine	Native	Tree	-	FACU	-
Pinus sabiniana	Bull pine	Native	Tree	-	-	-
Plantago lanceolata	Ribwort	non-native (invasive)	perennial herb	-	FACU	Limited
Polygala cornuta	Sierra milkwort	Native	perennial herb	-	FACW	-
Polypogon sp.	-	-	-	-	-	-
Populus fremontii ssp. fremontii	Cottonwood	Native	Tree	-	FAC	-
Poterium sanguisorba	Garden burnet	non-native	perennial herb	-	UPL	-
Prunella vulgaris	Self heal	Native	perennial herb	-	FACU	-
Prunus subcordata	Sierra plum	Native	tree, shrub	-	-	-
Pyracantha sp.	-	-	-	-	-	-
Quercus garryana var. semota	Oregon white oak	Native	Tree	-	FACU	-
Rhamnus crocea	Redberry	Native	Shrub	-	-	-
Rosa canina	Dog rose	non-native	Shrub	-	-	-
Rubus armeniacus	Himalayan blackberry	non-native (invasive)	Shrub	-	FACU	High
Rubus leucodermis	White bark raspberry	Native	Shrub	-	FACU	-
Rumex crispus	Curly dock	non-native (invasive)	perennial herb	-	FAC	Limited
Salix exigua	Narrowleaf willow	Native	tree, shrub	-	FACW	-
Salix laevigata	Polished willow	Native	Tree	-	FACW	-
Salix lasiolepis	Arroyo willow	Native	tree, shrub	-	FACW	-
Salvia sonomensis	Sonoma sage	Native	perennial herb	-	-	-
Schoenoplectus acutus var. occidentalis	Tule	Native	perennial grasslike herb	-	OBL	-

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
Scutellaria tuberosa	Dannie's scullcap	Native	perennial herb	-	-	-
Solidago sp.	-	-	-	-	-	-
Toxicodendron diversilobum	Poison oak	Native	vine, shrub	-	FAC	-
Tragopogon dubius	Goat's beard	non-native (invasive)	perennial herb	-	-	-
Trichostema lanceolatum	Vinegarweed	Native	annual herb	-	FACU	-
Trifolium hirtum	Rose clover	non-native (invasive)	annual herb	-	-	Limited
Trifolium sp.	-	-	-	-	-	-
Triteleia hyacinthina	Wild hyacinth	Native	perennial herb	-	FAC	-
Typha domingensis	Cattail	Native	perennial herb	-	OBL	-
Verbascum blattaria	Moth mullein	non-native	perennial herb	-	UPL	-
Verbascum thapsus	Woolly mullein	non-native (invasive)	perennial herb	-	FACU	Limited
Vitis californica	California wild grape	Native	vine, shrub	-	FACU	-
Wyethia angustifolia	Narrow leaved mule ears	Native	perennial herb	-	FACU	-
Wyethia bolanderi	Bolander's wyethia	Native	perennial herb	-	-	-

Appendix F

Pine Hill Flannelbush and CNPS List 4 Species Locations Figures



Grass Valley, CA
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26

Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983

Figure. Pine Hill Flannelbush Occurrences Within the Centennial Industrial Site

SCALE: 1 inch = 300 feet

Legend

- Pine HIll flannelbush (individuals or clusters)
- CNDDB mapped extant of Pine Hill flannelbush*
- **Centennial Industrial Site Study Area**

***The mapped extent from digitization of 1999 paper map by Karen Callahan is likely cause for part of discrepency.**

Grass Valley, CA
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26

Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983

Figure. CRPR 4 Plants: Sierra brodiaea and Humboldt lily Occurrences Within the Centennial Industrial Site

SCALE: 1 inch = 300 feet

Legend

Scientific

- Sierra brodieae
- Humboldt LIly
- **Centennial Industrial Site Study Area**

Note: each point may represent multiple individuals

Appendix G

Aquatic Resources Delineation Results

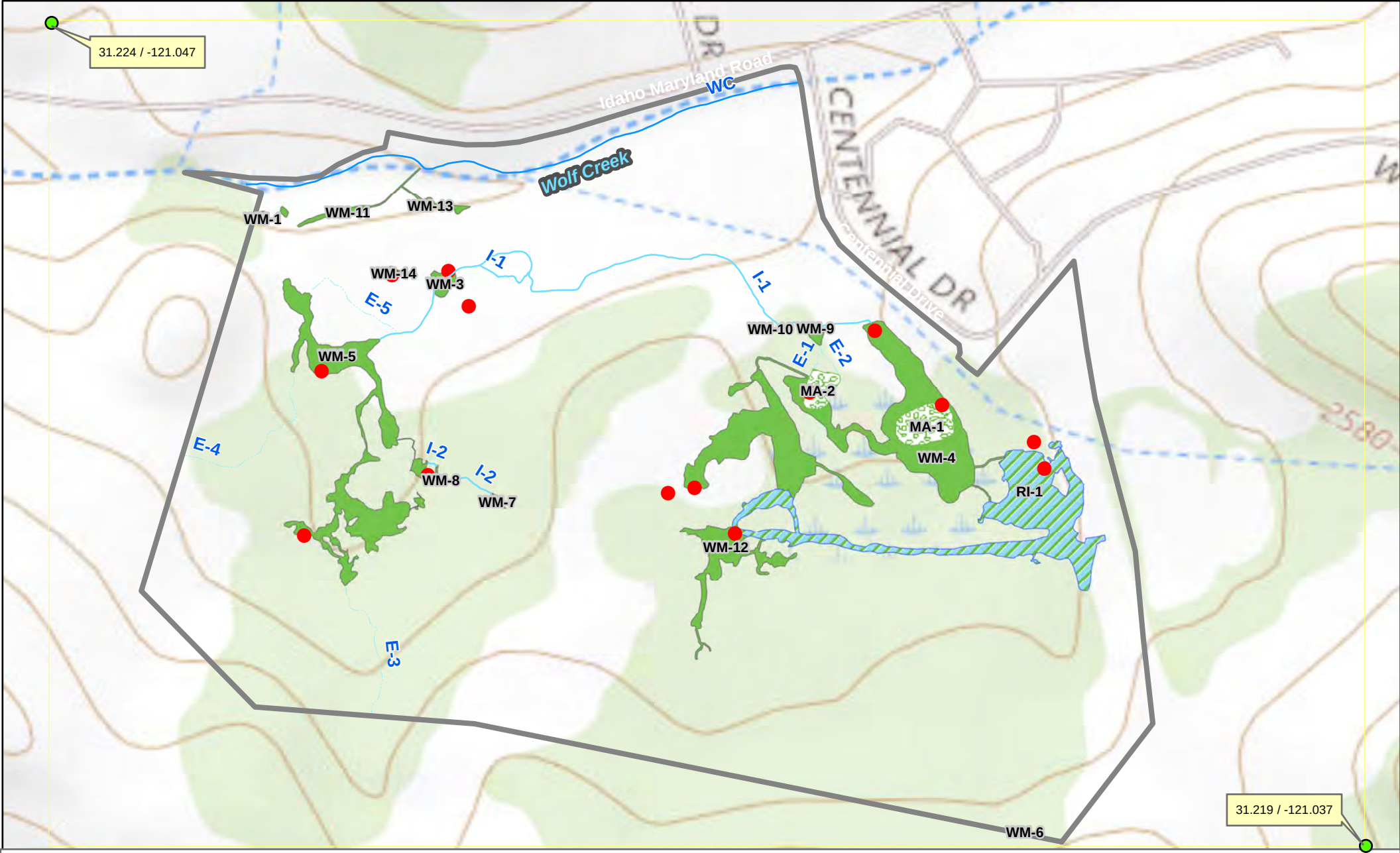


Figure. Centennial Industrial Site Study Area, Aquatic Resource Overview, USGS basemap.

Grass Valley, CA (APNs 009-550-037-000, 009-550-036-000, 009-550-032-000 & 009-550-038-000)
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26

Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983

SCALE: 1 inch = 275 feet

0 55 110 220 330 440
Feet

This delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the Western Mountains Regional Supplement (2010). The identification of ordinary high water mark (OHWM) was based on A Guide to Ordinary High Water Mark (OHWM) for Non-Perennial Streams in the Western Mountains (2014).

Created August 31, 2020.

Legend

= Study Area, 56.4 ac.

Streams
=Ephemeral, 1,090 ft., 0.05 ac.
=Intermittant, 1,616 ft., 0.17 ac.
=Perennial,1,262 ft., 0.38 ac.

= Data point

Wetlands
= Marsh (MA), 0.31 acres
= Meadow (WM), 2.88 acres
= Riparian (RI), 1.18 acres

Appendix H

Photo Log

Photos of Field Surveys of the Centennial Industrial Site

Photo 1. Spring within the western section of the Centennial Industrial Site.

Photo 2. Annual grassland area within the northwestern section of the Centennial Industrial Site.

Photo 3. Mapped drainage with adjacent annual grassland in the northern/northwestern section of the Centennial Industrial Site.

Photo 4. Roadside wet meadow wetlands in the western section of the Centennial Industrial Site.

Photo 5. Wet meadow wetland and ephemeral drainage within the northwestern section of the Centennial Industrial Site.

Photo 6. Chaparral and annual grasslands in the western section of the Centennial Industrial Site.

Photo 7. Wetlands, woodlands, and annual grasslands in the central section of the Centennial Industrial Site.

Photo 8. Marsh wetland habitat for California red-legged frog, California black rail, and western pond turtle in the eastern section of the Centennial Industrial Site.

Photo 9. Ponded marsh wetland habitat for California red-legged frog, California black rail, and western pond turtle in the eastern section of the Centennial Industrial Site.

Photo 10. Wet meadow wetland area in the eastern section of the Centennial Industrial Site.

Photo 11. Large montane riparian area in the eastern section of the Centennial Industrial Site.

Photo 12. Edge of large montane riparian area in the eastern section of the Centennial Industrial Site.

Photo 13. Disturbed area in the western section of the Centennial Industrial Site.

Photo 14. Large area of montane riparian wetlands within the eastern section of the Centennial Industrial Site.

Photo 15. Mixed chaparral and montane hardwood-conifer vegetation communities within the southwestern section of the Centennial Industrial Site.

Photo 16. Mixed chaparral vegetation community within the southern section of the Centennial Industrial Site.

Photo 17. Mixed chaparral and montane hardwood-conifer vegetation communities within the southwestern section of the Centennial Industrial Site. Photo looking north.

Photo 18. Mixed chaparral and montane hardwood-conifer vegetation communities within the southwestern section of the Centennial Industrial Site. Photo looking northeast.

Appendix I

CNPS Ranked Plants and Species Table for Special-Status Plant and Wildlife Species

Common and Scientific Name	Legal Status[1] Federal/State/ CNPS	Habitat Association	Identification Period	Potential for Species/Habitat Presence
Stebbins' morning-glory *Calystegia stebbinsii*	--/--/1.B2	Gabbroic or serpentinite soils. Openings in chaparral, cismontane woodland, lower montane coniferous forest, from 980-4,330 feet.	Apr- Jul	**Low.** Potential for occurrence in openings and under chaparral in gabbroic soils. Known 4 miles to east on gabbroic chaparral on Oceola Ridge. Was not observed during targeted 2019 field surveys.
Sierra arching sedge *Carex cyrtostachya*	--/--/1B.2	Lower montane mesic coniferous forest, meadows and seeps, marshes and swamps, Riparian forests (margin), from 2,000-4,460 feet.	May -Aug	**Low.** Potential for occurrence in mesic forests. Within the known distributional and elevational range for this species, though nearest known occurrence 16 miles to the north. This species was recently described so the full extent of its range and distribution are unlikely yet known. Marginal habitat present in study area, and it was not observed during 2019 field surveys.
Chaparral sedge *Carex xerophila*	--/--/1B.2	Chaparral, cismontane woodland, lower montane coniferous forests on serpentinite and gabbroic substrates, from 1,400 – 2,525 feet.	Mar- Jun	**Low.** Potential for occurrence in openings and under chaparral in gabbroic soils. Known 4 miles away on Oceola Ridge in gabbroic chaparral. Was not observed during 2019 field surveys.
Red Hills soaproot *Chlorogalum grandiflorum*	--/--/1B.2	Chaparral, cismontane woodland, lower montane coniferous forests on serpentinite and gabbroic substrates, from 800 – 5,545 feet.	May-Jun	**Low.** Potential for occurrence in openings and under chaparral in gabbroic soils. Known over 10 miles south in Bunch Canyon south of Colfax, with no known occurrences to north. Was not observed during 2019 field surveys.
Pine Hill flannelbush *Fremontodendron decumbens*	FE/CR/1B.2	Chaparral, cismontane woodland on serpentinite and gabbroic substrates, from 1,390 – 2,495 feet.	Apr- July	**High.** Potential for occurrence in openings and under chaparral in gabbroic soils in Idaho Maryland study area. Known from study area from CNDDB Occurrence #14. Field surveys in 2019 expanded boundaries of known occurrence.

Common and Scientific Name	Legal Status[1] Federal/State/ CNPS	Habitat Association	Identification Period	Potential for Species/Habitat Presence
Butte County fritillary *Fritillaria eastwoodiae*	--/--/3.2	Openings in chaparral, cismontane woodland, and lower montane coniferous forest, sometimes serpentinite, from 160-4,920 feet.	Mar-Jun	**Low.** Potential for occurrence in open areas in the study area. There is a 1979 record for this species on the south side of the South Yuba River canyon approximately 7 miles north of the study area, and other occurrences on the Washington Ridge. Surveys were not conducted during the appropriate phenological period for this species (April-May), but fruits would have been visible for individuals from this genus and they were not observed during 2019 field surveys.
Finger rush *Juncus digitatus*	--/--/1B.1	Seasonal wet areas, cismontane woodland openings, openings in lower montane coniferous forest, xeric vernal pools, from 2,165-2,590 feet.	Apr-Jun	**Low.** Potential for the occurrence in gravelly, seasonally moist openings. Known less than one mile to the north near the intersection of Idaho Maryland and Brunswick. Was not observed during 2019 field surveys.
Dubious pea *Lathyrus sulphureus* var. *argillaceus*	--/--/3	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest, from 490-3,050 feet.	Apr-May	**Low.** Potential to occur in forested areas. Known within 3 miles of study areas from a 1926 collection. Also known to SW 5 miles away near Wolf Mountain. Plant list from 2006 surveys have a *Lathyrus sulfureus* with no variety designation, but not observed during 2019 surveys.
Cantelow's lewisia *Lewisia cantelovii*	--/--/1B.2	Moist, granitic areas in broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest mesic, sometimes serpentinite seeps, from 1,080-4,495 feet.	May-Oct	**Low.** Potential for occurrence in any rocky outcrops with seeps on the parcel. There are records for this species in the Middle Yuba and South Yuba river canyons within 7 miles of the study area. The preferred habitat for this species in the study area has been disturbed and is of reduced quality. Was not observed during 2019 field surveys.
Cedar Crest popcornflower *Plagiobothrys glyptocarpus* var. *modestus*	--/--/3	Cismontane woodland, valley and foothill grasslands (mesic), from 2,850-2.855 feet.	Apr-Jun	**Moderate.** Known from historic collection potentially from nearby Cedar Ridge. Also known from historic collections in Nevada City. Suitable habitat for this species is present. Was not observed during 2019 field surveys.

Common and Scientific Name	Legal Status[1] Federal/State/ CNPS	Habitat Association	Identification Period	Potential for Species/Habitat Presence
Sierra blue grass *Poa sierrae*	--/--/1B.3	Openings in lower montane coniferous forest, 1,195-4,920 feet.	Apr-Jul	**Low.** There is only marginal suitable habitat for this species in the study area, primarily in the ponderosa pine forest, and in the forested areas along Wolf Creek. Known from Steephollow Creek from a collection from 1964. Was not observed during 2019 field surveys.
Brownish beaked-rush *Rhynchospora capitellata*	--/--/2B.2	Wet areas (marshes, swamps, meadows, and seeps) in montane coniferous forest, from 145-6,560 feet.	Jul-Aug	**Low.** Suitable habitat for this species in the perennial marsh wetlands. It is known 3 miles to the west near the Nevada County Fairgrounds from a report in 1973. Was not observed during 2019 field surveys.
Scadden Flat checkerbloom *Sidalcea stipularis*	--/CE/1B.1	Marshes and swamps (montane freshwater), from 2,295-2,395 feet.	Jul-Aug	**Low.** Suitable habitat for this species in the perennial marsh wetlands. It is known 3 miles to the west near the Nevada County Fairgrounds from a report in 1973. Was not observed during 2019 field surveys.

[1]Status explanations:

FE = Federally Endangered
CR = State Rare
CE = State Endangered
-- = no listing.

California Native Plant Society Rare Plant Rank (formerly known as CNPS lists)
1B = Rank 1B species: rare, threatened, or endangered in California and elsewhere.
2B = Rank 2B species: rare, threatened, or endangered in California but more common elsewhere.
3 = Rank 3 species are taxonomically problematic and lack the necessary information to assign them to one of the other ranks.
4 = Rank 4 plants are of limited distribution or infrequent throughout a broader area in California; should be monitored regularly.
Source: CNPS 2019; CNDDB 2019; USFWS 2019, and Calflora 2019.

Common and Scientific Name	Legal Status[1] Federal/State	Habitat Requirements	Potential for Species/Habitat Presence
Amphibians			
California red-legged frog *Rana draytonii*	FT/SSC	Found in permanent and semi-permanent aquatic habitats, such as creeks and ponds, with emergent and submergent vegetation. May aestivate in rodent burrows or cracks during dry periods. Along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County.	**Very Low**; however, the perennial aquatic resources such as the freshwater emergent marsh habitats within the eastern section of the Centennial Site contain marginal suitable habitat for the species.
Foothill yellow-legged frog *Rana boylii*	SCT/SCC	Perennial rocky (pebble or cobble) streams with cool, clear water in a variety of habitats from valley and foothill oak woodland, riparian forest, ponderosa pine, mixed conifer, coastal scrub, and mixed chaparral at elevations ranging from 0 to 6,370 feet. Occurs in the Klamath, Cascade, north Coast, south Coast, and Transverse Ranges; through the Sierra Nevada foothills up to approximately 6,000 feet south to Kern County	**Very Low**; however, the main stem of Wolf Creek within the northern section of the Centennial Site contains marginal suitable habitat for the species.
Reptiles			
Western pond turtle *Emys marmorata*	--/SSC	Thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation, below 6,000 feet in elevation. Populations extend throughout the coast and central valley of California.	**High.** Potential for occurrence in areas near water, including Wolf Creek and perennial aquatic resources such as the freshwater emergent marsh habitats within the eastern section of the Centennial Site.
Coast horned lizard *Phrynosoma blainvillii*	--/SSC	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	**Moderate**. Potential for occurrence in areas with appropriate habitat within the Centennial Site, including open chaparral habitats.
Mammals			
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC	Associated with lower montane coniferous and mixed conifer forest habitats where abandoned buildings and structures occur for roosting.	**Low.** Potential for occurrence in areas containing abandoned structures, including the existing decant structure in the northwestern section of the Centennial Site.

Common and Scientific Name	Legal Status[1] Federal/State	Habitat Requirements	Potential for Species/Habitat Presence
Birds			
California black rail *Laterallus jamaicensis coturiculus*	--/CT	California black rail inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. The species requires water depths of approximately 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat.	**Very Low**; however, the perennial aquatic resources such as the freshwater emergent marsh habitats within the eastern section of the Centennial Site contain marginal suitable habitat for the species.
Cooper's hawk *Accipiter cooperii*	MBTA/CDFW Watch List	Cooper's hawks are forest and woodland birds. These hawks are a regular sight in parks, quiet neighborhoods, over fields, at backyard feeders, and even along busy streets if there are trees present.	**Moderate**; however, the woodland habitats within the Centennial Site contain marginal suitable habitat for the species.
Invertebrates			
Western bumble bee *Bombus occidentalis*	--/--	Western bumble bee was documented approximately 3 miles northeast of Nevada City (4+ miles from the Centennial Site) in 1968. It is known from a single collection on May 20th of that year. This species is of conservation concern and is listed as S1, Critically Imperiled, by NatureServe and is listed on the CNDDB.	**Very Low.** Unlikely to occur in the Centennial Site or surrounding region.

[1]Status explanations:

-- = no listing.

Federal

BCC = federal Bird of Conservation Concern

FPT = federal proposed threatened under the federal Endangered Species FT
= listed as threatened under the federal Endangered Species Act.

State

FP = state fully protected

SCT = state candidate for listing as threatened under the California Endangered Species SE
= listed as endangered under the California Endangered Species Act.

SSC = state species of special concern

ST = listed as threatened under the California Endangered Species Act.

Source: CNDDB 2019 and USFWS 2019

Appendix J

CNDDB 5-Mile Buffer Figure

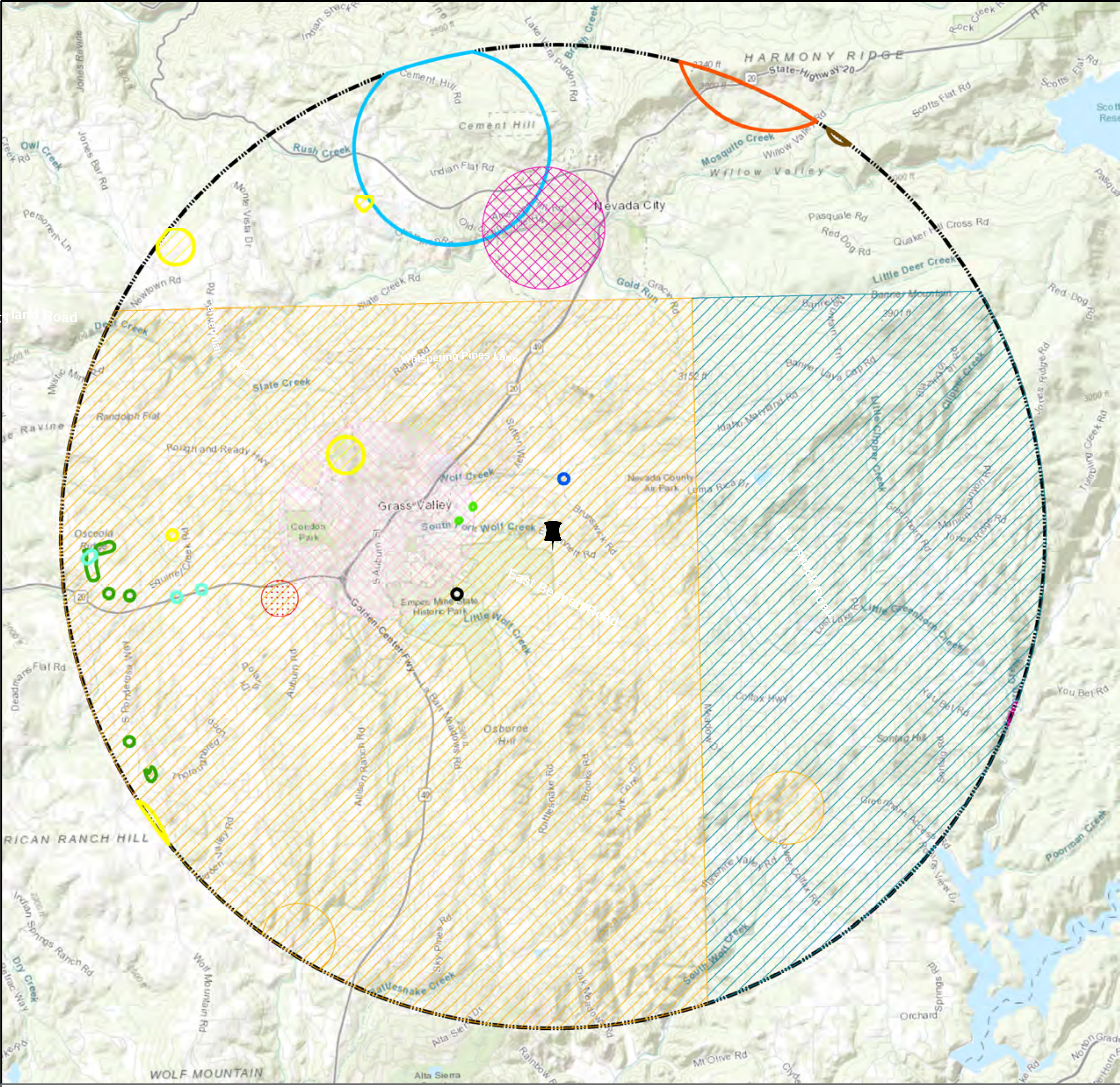


Figure. Known Occurrences of Special Status Species within 5 Miles of the Centennial Site

Legend

- FiveMileProjectBuffer
- Project Area

Common Name, Scientific Name, FESA, CESA, CNPS

- Brandegee's clarkia, Clarkia biloba ssp. brandegeeae, none, none, 4.2
- California black rail, Laterallus jamaicensis coturniculus, none, Threatened
- Cooper's hawk, Accipiter cooperii, none, none
- Pine Hill flannelbush, Fremontodendron decumbens, Endangered, Rare, 1B.2
- Scadden Flat checkerbloom, Sidalcea stipularis, none, Endangered, 1B.1
- Stebbins' morning-glory, Calystegia stebbinsii, Endangered, Endangered, 1B.1
- Townsend's big-eared bat, Corynorhinus townsendii, none, none
- brownish beaked-rush, Rynchospora capitellata, none, none, 2B.2
- chaparral sedge, Carex xerophila, none, none, 1B.2
- coast horned lizard, Phrynosoma blainvillii, none, none
- dubious pea, Lathyrus sulphureus var. argillaceus, none, none, 3
- finger rush, Juncus digitatus, none, none, 1B1
- foothill yellow-legged frog, Rana boylii, none, Candidate Threatened
- western bumble bee, Bombus occidentalis, none, none

0 1 2 Miles

1 in = 1 miles

Appendix K

USFWS iPac Report

IPaC **U.S. Fish & Wildlife Service**

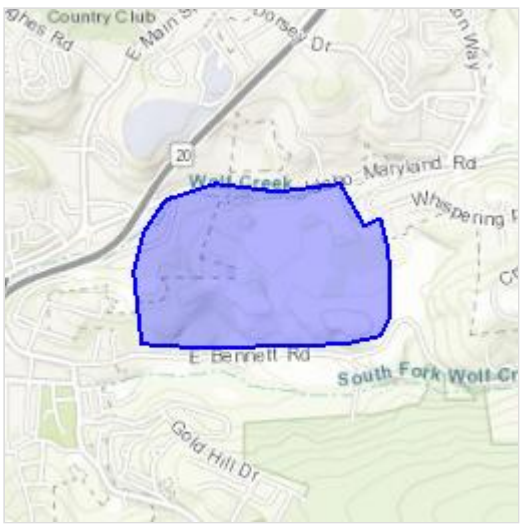
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Nevada County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. 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.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Pine Hill Flannelbush Fremontodendron californicum ssp. decumbens No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4818	Endangered
Stebbins' Morning-glory Calystegia stebbinsii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3991	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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.

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

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 (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Cassin's Finch Carpodacus cassinii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Lewis's Woodpecker Melanerpes lewis 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 Contopus cooperi 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 selasphorus rufus 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
Willow Flycatcher Empidonax traillii 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/3482	Breeds May 20 to Aug 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.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

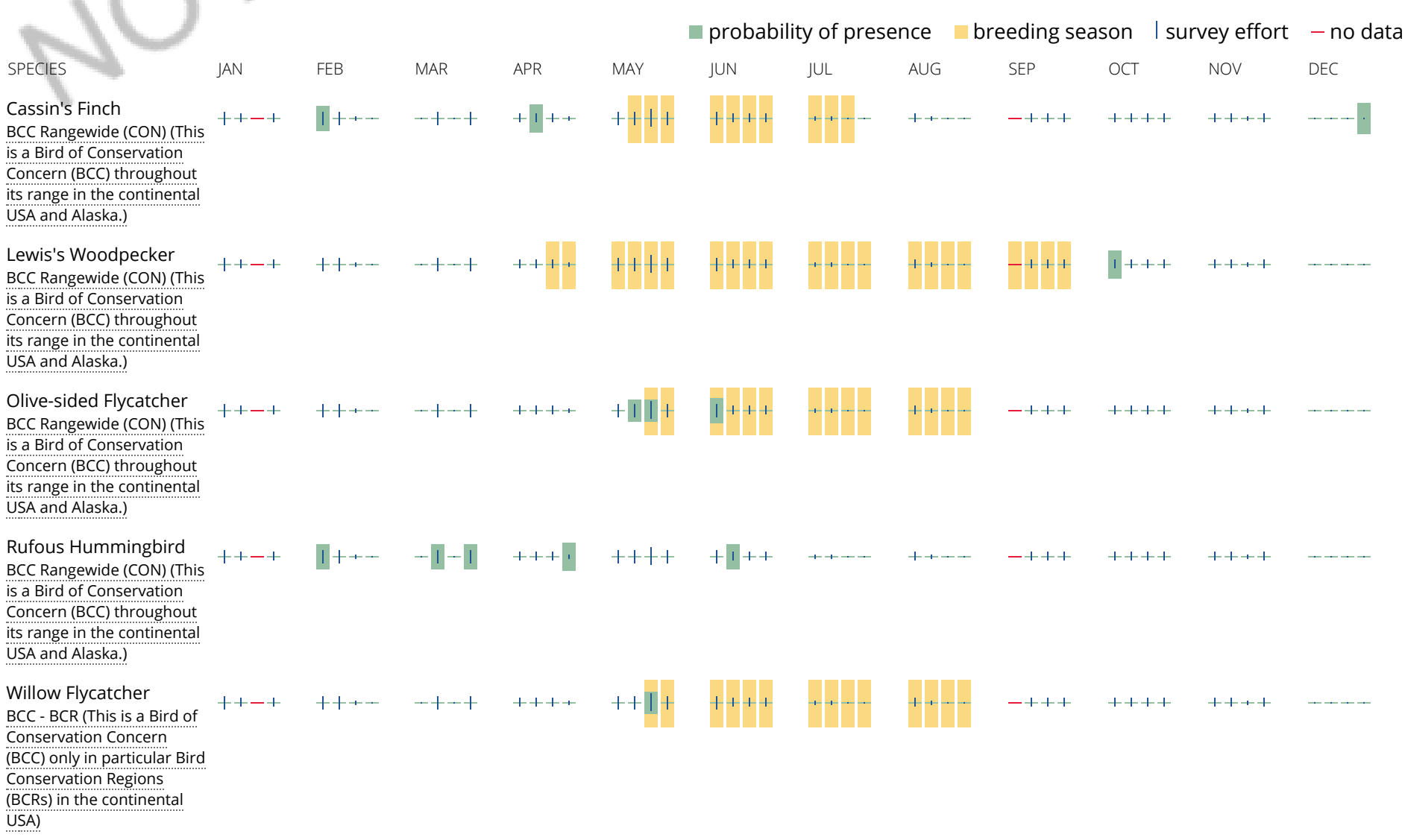
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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.



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 AKN Phenology 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 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.

Facilities

National Wildlife Refuge lands

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.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1A

FRESHWATER FORESTED/SHRUB WETLAND

PFOC

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.