

# MOSQUITO FISH GIVE AWAYS

- ✓ Fish are **NOT** to be put in natural **STREAM** courses. These fish are non-native and they require ponded water.
- ✓ We provide Breeding Stock and will not be able to completely stock your pond.
- ✓ People want fish for barrels, troughs, landscape fountains, etc.
- ✓ Should be for property within Nevada County.
- ✓ If pond is established with algae, aquatic plants and vegetation around pond it is not recommended that owner feed the fish, if done incorrectly it can throw the pond out of balance.
- ✓ If situation requires feeding -- purchase flakes (goldfish food is cheaper) or small floating pellets at pet stores or feed supply places.
- ✓ Mosquito fish can be added to ponds with other fish in general! There are ALWAYS EXCEPTIONS IN BIOLOGY!
  - ❖ In tight quarters they will be eaten and they can pick at others like tadpoles and gold fish.
  - ❖ If the pond has predators like bass, raccoons, and birds the fish need shallow &/or well vegetated areas for refuge.
  - ❖ If there are threatened or endangered species in the pond DO NOT ADD FISH, seek guidance from CA Dept of Fish and Wildlife and/or Nevada County Department of Environmental Health.

## Instructions to acclimate the fish

- ✓ Place the box of fish at the pond's edge in shallow water (near vegetation) and rest for approximately 10 min. This equilibrates the box water temperature to the pond's temperature.
- ✓ Add a cupful of the water from the pond into the fish container. Let the fish sit in this for 5-10 min. The fish then will have adapted to the pond's water and will not be disoriented.
- ✓ Release the fish near the shore gently and preferably near some form of cover (undercut bank, roots, or vegetation).

**Nevada County Department  
Environmental Health**

**Mosquito Control Program  
950 Maidu Avenue  
Nevada City, CA 95959**

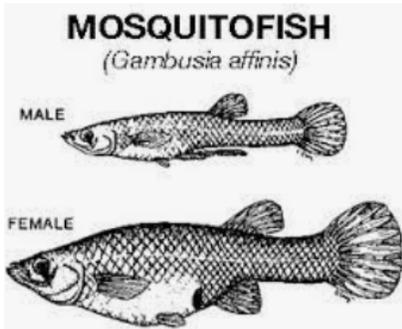
**Mosquito Service Requests:  
(530)265-1500**



Culex mosquito larvae need to surface to breathe through tube. *Image from CDC*

## Mosquito Fish (*Gambusia affinis*)

These fish are in the same family as guppies. Native Range: Atlantic and Gulf Slope drainages from southern New Jersey to Mexico; Mississippi River basin from central Indiana and Illinois south to Gulf. Mosquito fish do not lay eggs, they give birth to well-developed active young, and therefore they do not require special habitat. Both sexes are colorless, and the female is bigger



than the male both in length and girth. Males 0.5 – 2.0 inches, females 1-3 inches. The male has a modified anal-fin (bottom) for sperm transfer. In the summer, broods may be produced every 3 weeks of up to 300 young/female. Their mouth is located on the surface (superior) and they eat almost anything smaller than they are (plants and animals). They prefer water 60-80 °F but can survive 33-100 °F with a pH of 7-8. At low temperatures they move to deeper water near the mud and become inactive. Mosquito fish have a large tolerance to

unfavorable water conditions including low oxygen, saline, and pollutants. Mosquito fish occupy the shallow shore edge. In captivity they live 1-3 years.

### Good

- ✓ Require no feeding and low/no maintenance
- ✓ Opportunistic feeders, large appetite – one female can eat 100's of mosquito larvae per day.
- ✓ One female produces 3-4 broods of 40-300 young.
- ✓ California Fish & Game has a regional policy allowing the establishment of these fish for mosquito control.
- ✓ They are a good effective alternative to chemical control. i.e. Biological vector control

### Bad

- ✗ Introduced species
- ✗ Eat desirable insect and amphibian larvae.
- ✗ May out-compete native species of fish

### **Other ways to consider mosquito/vector control**

- Encourage and celebrate bats in your neighborhood – one brown bat can eat 1200 mosquitoes in one hour.
- Consider building a bat &/or swallow house (simple plans available online)
- Wear repellents and protective clothing.
- Remove water from artificial containers that are unnecessarily full
- Drill holes in the bottom of tires used as sprinkler bumpers.
- Change the water in troughs and birdbaths every 4 days to remove larva that may form.