

Vector Information Sheet

Mosquitofish

In an effort to control mosquitoes with less reliance on the use of pesticides, the Coachella Valley Mosquito and Vector Control District uses biological control measures to minimize mosquito populations, along with chemical and physical approaches.

Biological control involves the use of biological control agents such as natural predators and pathogens of mosquitoes. The most successful biological agent for mosquito control is the mosquitofish, *Gambusia affinis*. Introduced into California in 1922, the fish has become one of the most efficient control methods. The District runs a fish production program in our Biological Control Facility for mosquito control.

The mosquitofish is a member of the *Poeciliidae* family, and gives birth to live young. They breed throughout the summer and have up to five broods annually. Fertilized eggs hatch in 21 to 28 days. Each brood consists of about 40 to 100 young. The young are approximately ¼” in length and may mature to a maximum of 3”. Their small size allows them to dwell in shallow waters and penetrate dense vegetation growth where larvae and pupae shelter. Mosquitofish have a short life cycle, lasting two to three years.

Mosquitofish have a voracious appetite and feed on plankton and aquatic insects. The young are ready to feed immediately on mosquito larvae. Their flattened head and protrusible mouth enable the fish to prey on surface feeding mosquito larvae and pupae. They are visual predators and feed during daylight hours. In the cold months, low temperatures cause the fish to become lethargic and feeding rates decrease. Survival of mosquitofish is somewhat poor in winter when the water is less than 18” deep. However,

mosquitofish can tolerate broad temperature changes, organic pollution, salinity, poor food supply, and overcrowding. Their hardiness, adaptability, ease of handling during transportation, and relative lack of susceptibility to disease contribute to their effectiveness.

In Riverside County, there are concerns that the introduction of mosquitofish into some habitats may affect the desert pupfish, *Cyprinodon macularius*, which is an endangered species. Therefore, California state law requires a permit from the Department of Fish and Game for the transportation and stocking of mosquitofish in the state. In general, for early season stocking of mosquitofish, 0.2-0.5 lbs/acre is appropriate. The number of fish per pound depends on the population structure. For a combined population of adult and juvenile fish, stocking density consists of approximately 600 to 1,300 fish/pound. Higher stocking rates are necessary when stocking is in: late season, poor quality environments that inhibit reproduction, or sources in which immediate mosquito control is necessary.



Mosquitofish can tolerate extreme temperatures from 33-108° F, yet prefer around 88°F. Important water quality factors to be monitored are temperature, dissolved oxygen, salinity, pH, ammonia, and turbidity. Mosquito should not be combined with other species in aquariums or ponds because they will often attack each other.

Public pick-up or delivery of mosquitofish

If you would like to prevent mosquito breeding in your backyard – in an ornamental pond, unused swimming pool, or trough – we will provide you mosquitofish at no charge. Contact the District to arrange pick-up or delivery of your fish.

