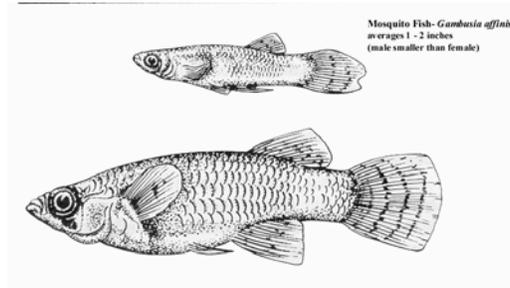


ODFW Backgrounder

Using Mosquitofish (*Gambusia affinis*) for Mosquito Control



NYDEC Public domain drawing

Q: What methods exist for mosquito control?

A: Local mosquito populations can be decreased in a variety of ways. When it's necessary to reduce numbers of mosquitoes, mosquito control professionals use a multi-step approach. This approach uses physical, mechanical, cultural, biological, chemical, and educational measures, alone or in combination to balance public and environmental health. Examples include prevention, natural mosquito predators, various mosquito treatments, and placement of mosquitofish (also called *Gambusia*).

Prevention: This is the most important step you can take. For example, eliminate or reduce places for mosquitoes to lay their eggs by removing containers that collect standing water such as buckets and tires, keeping gutters unclogged, and emptying birdbaths and pet water bowls weekly. Protect yourself from mosquito bites by limiting time spent outdoors at dawn or dusk when mosquitoes are most active, consider wearing lightweight long-sleeved shirts and pants, install or repair window screens and doors to keep mosquitoes out, and use a mosquito repellent that contains either DEET, Picaridin, Oil of Lemon Eucalyptus or PMD or IR3535 (use according to the package directions). Consider adding aeration such as a fountain head or thin vegetation around pond margins to reduce mosquitoes.

Natural Mosquito Predators: Maintaining a healthy pond environment encourages natural mosquito predators. Fish, wildlife and insects that eat mosquito larvae in the water or as flying adults include frogs, salamanders, dragonflies, aquatic insects, birds, and bats.

Treatments: Larvicides (products that control immature mosquitoes (larvae)) such as *Bacillus thuringiensis var. israelensis* (Bti) kill immature mosquitoes in water and have less impact on fish, wildlife and the environment than products that target adult mosquitoes. Chemical control methods can have significant environmental impacts and should be considered very carefully before use. For more information, contact your local county health department or local vector control district.

Mosquitofish: Mosquitofish, also known as *Gambusia*, are small predatory fish, introduced into Oregon from the eastern and southeastern United States. Because mosquitofish are not native to Oregon, state law only allows them to be placed in artificial or human-made self-

April 2009

contained waterbodies, such as aquariums, livestock troughs and ornamental ponds that are not fed or drained by natural waterways. Natural waterbodies, such as ponds, streams, rivers or lakes or other waterbodies that may be flooded are off limits for mosquitofish. (See Oregon Revised Statutes 498.222.)

Of course many fish species will eat mosquito larvae. If you already have fish in a pond, adding mosquitofish may not provide any additional benefit. Whenever fish stocking is being considered, landowners need to know about the potential threats to native fish and wildlife species, the regulations that govern fish stocking, and how to stock fish in a way that meets legal requirements and protects the natural resources of Oregon. For more information contact ODFW Fish Division at 503-947-6201.

Q: Where can I legally use mosquitofish for mosquito control?

A: Oregon law allows mosquitofish to be placed only in artificial or human-made tanks or ponds which are not fed or drained or flooded by streams, rivers, lakes or other natural waterbodies. These self-contained systems include ornamental ponds, livestock troughs and other similar human-made water systems that have no inlet or outlet. Natural waterbodies include creeks, streams, sloughs, ponds, lakes, ditches connected to natural waterways, and ponds located in areas where flooding could allow the fish to enter the natural waterbodies are prohibited.

Q: Why can't I place mosquitofish in natural waterways?

A: Though their name implies that they only eat mosquitoes, mosquitofish eat pretty much anything available. Mosquitofish are known to eat or harm fish eggs, small or young fish, frog and salamander eggs, and beneficial aquatic insects. They may also compete with native species for available food and habitat. In addition, mosquitofish may reduce the natural mosquito control provided by native fish, wildlife and aquatic insects. Mosquitofish predation and competition have contributed to the elimination or decline of federally threatened and endangered fish species in the western United States. They may also be detrimental to the conservation and recovery of the federally listed salmon and endangered Oregon chub, a native minnow, in the Willamette Valley.

Q: Where can I buy mosquitofish?

A: Mosquitofish are available from some pet shops, garden stores, pond supply stores, nurseries and local vector control districts. The best locations for mosquitofish are in your aquarium, garden pond, rain barrel or a livestock trough away from natural waterbodies. Putting mosquitofish in these types of containers does not need an ODFW fish transportation permit. Stocking of any other natural waterbody requires a fish transportation permit from ODFW. If you want to buy mosquitofish to put in a larger artificial pond, such as a farm pond, you should first check with ODFW to be sure the fish can legally be placed in the pond.

Q: Can I transport mosquitofish from one natural waterbody to another?

A: No. Oregon law prohibits the transport or stocking of live fish without a permit. This also applies to private pond stocking of game fish even if they are purchased from licensed sellers. In addition, it is not legal to collect fish from a natural waterbody and transport them to another waterbody.



Female Mosquitofish (about actual size)