

Florida Fish Busters

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### **Florida's Nonnative Freshwater Fishes**

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Nonnative freshwater fishes and aquatic plants present challenges to Florida's native species. The Florida Fish and Wildlife Conservation Commission (FWC) works diligently with the public and with scientists to manage and conserve the state's native freshwater wildlife and ecosystems.

Thirty-four nonnative freshwater fishes, introduced from other countries, currently reproduce in Florida. Almost all of these introductions resulted from individuals releasing unwanted aquarium or food fishes, and/or the flooding of aquaculture ponds. Most of these introductions were done accidentally, but nonetheless, illegally. In addition, nonnative plants, such as water hyacinth, and invertebrates, such as island apple snails, can create environmental problems.

Consequently, it is illegal to release any nonnative fish or any other nonnative organism into the waters of the state. Anyone wanting to dispose of live nonnative aquarium fish should give them to a friend or an aquarium store, or euthanize them by lowering the water temperature with ice or placing them in a plastic bag and freezing it.



During 2007, FWC partnered with public and private entities to post 400 “Stop Aquatic Hitchhiker” signs at boat ramps, as part of a national campaign. The signs remind boaters to clean their boats, trailers or recreational equipment of mud, plants or animals, and to drain and dry their equipment to prevent movement of nuisance species between water bodies. Nuisance aquatic species include aquatic plants, fish, snails, crawfish or plankton that can cause economic, human health or ecological damage. Species within the state whose spread is trying to be contained include channeled apple snail, rusty crawfish, red-eared slider turtle, green mussel and giant salvinia. Partners that posted “Stop Aquatic Hitchhiker” signs include the Nature Conservancy, U.S. Forest Service, U.S. National Park Service, and the Florida Department of Agriculture and Consumer Service, Division of Forestry.

Similarly, new posters and advertisements have been developed and distributed to pet stores and other locations to inform residents and visitors of the problems associated with nonnative nuisance species.



So many nonnative fishes thrive in Florida because our aquatic habitats have been dramatically altered. For example, man-made canals in Southeast Florida provide nearly ideal habitats for many of these fishes. Not only are these canals located in the warmest part of Florida, but the nonnative fish’s specialized spawning and rearing tactics, such as mouth brooding, may provide them an

advantage in these box-cut canals. Elsewhere, efforts to minimize water level fluctuations in lakes has caused changes in plant communities and increased the muck on the bottom of lakes, which often favors nonnative species.

In Florida, there are only two legally introduced nonnative fish: triploid grass carp and butterfly peacock bass. They are used as biological controls for excessive growths of aquatic vegetation and overabundant forage fishes.

The triploid grass carp is a functionally sterile fish produced and certified in hatcheries. Since they do not reproduce, periodic stockings are required to control aquatic vegetation. In Florida during the last 20 years, results have generally been favorable. Specific permits are required and only certified triploid grass carp can be used at approved sites to prevent their spread to areas where they could become a nuisance.

The butterfly peacock is the only reproducing nonnative fish that was legally introduced. Extensive research indicated their release would help convert an over-abundance of nonnative forage fishes, especially spotted tilapia. In 1984, they were released into a highly desirable urban sportfishery, and the result has been extremely successful. They have presented no known detrimental effects while generating millions of hours of fishing pleasure for anglers who spend more than \$8 million a year in Florida.



Studies in the 1970s and 1980s documented that illegal nonnative fishes had become extremely abundant in some Miami-Dade and Palm Beach counties' canal

systems. Too few native predators existed to eat these undesirable nonnatives. Research demonstrated the butterfly peacock would not harm native canal fish populations. Since water temperatures below 60 degrees kills this fish, they also could not consistently live outside coastal Southeast Florida.

In 1989, the fishery officially opened to the public, setting a daily bag limit of two butterfly peacock per day, with only one allowed to be 17 inches or longer. Butterfly peacock can be readily caught by novice anglers using live shiners swimming below a bobber, but pursuing a greater quantity and larger ones challenges even the most experienced of freshwater anglers. Since they rarely eat anything but fish, and feed almost exclusively during daylight, fish-imitating baits work quickly, especially in shady areas and around structures. Most large fish, more than 4 pounds, are caught between February and May.

Although triploid grass carp and peacock bass are noteworthy exceptions, it is important to remember that nonnative species do not generally belong here. It is illegal for anyone to transfer or release any nonnative species in Florida, including the butterfly peacock. The only exception is the immediate release of triploid grass carp and peacock bass that cannot be harvested.

Additional information and relevant links can be found at [MyFWC.com/Fishing/Fishes](http://MyFWC.com/Fishing/Fishes). The DACS also has nonnative information at <http://www.floridaaquaculture.com/publications/FL%20Ag%20&%20Non-native%20Unit.pdf>.

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