

Louisiana Grass Carp Policies, Concerns, and Issues

by

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In 1971, the Louisiana Department of Wildlife and Fisheries adopted a State Position banning the importation, transportation, and possession of diploid grass carp, *Ctenopharyngodon idella*. The banning of diploid grass carp was based on the carp's potential to reproduce in our major rivers and a lack of information on the effects of a wild reproducing population on the 350 million acres of important marshland and other inland freshwater areas.

Natural reproduction in Louisiana was first discovered in 1975. Reproduction has now been documented in many of the State's major river systems. In 1983, 23 percent of all fish larvae collected in the Red River was grass carp. Recruitment of larvae to the fingerling stage is apparently severely restricted by hydrological and/or biological events.

Hurricane Andrew in August 1992 created a situation that resulted in a massive, almost total fish kill in the Atchafalaya Basin. An estimated 200 million fish died. The Red River, Ouachita River, and 30 percent of the Mississippi River flow into this great basin swamp. All three river systems have reproducing grass carp populations. No grass carp were noted in the surveys of the massive fish kill in the Atchafalaya basin.

Research has been conducted with diploid grass carp within the State. Four closed system impoundments ranging in size from 30 to 250 acres were stocked with either 15 or 30 grass carp per surface acre in 1974. Results of this project indicated the following:

- a. Grass carp effectively controlled coontail, *Ceratophyllum demersum*, and Eurasian watermilfoil, *Myriophyllum spicatum*, in the study lakes.

- b. Stocking rates of grass carp should be carefully correlated to the biomass of the target species of aquatic plants.
- c. An increase in game fish during the 5-year study period was observed in one study area.
- d. Excessive stocking rates of grass carp might have adverse effects on some native fish.
- e. Adequate control of dense aquatic vegetation was obtained in 2 to 3 years by stocking fifteen 6-in. fish per surface acre.
- f. Grass carp stocked at 6 in. in length attained weights of 15.0 lb in 14 months.
- g. Grass carp were readily captured in the study lakes with trammel and gill nets.
- h. The use of grass carp for weed control can be useful under certain conditions.
- i. Diploid fish should not be introduced into areas that would allow escape into the river systems. Adverse effects could occur, including damage to Louisiana's valuable waterfowl habitat, freshwater wetlands, and estuarine areas.
- j. Development of a sterile grass carp could enhance the use of this fish for biological weed control.

Responding to a 1988 Legislative directive, the Department organized a Carp Task Force to review available information on the bighead carp, *Hypophthalmichthys nobilis*, the silver carp, *Hypophthalmichthys molitrix*, and the grass carp. All three species are presently found in Louisiana's waters. Interest in the possible commercial cultural of these fish

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stimulated the directive. After a lengthy review, the task force and the Department reported back to the Legislature to retain the ban on the diploid grass carp and recommended banning the importation, transportation, and possession of the silver and bighead carp. They further recommended approval of triploid grass carp for vegetation control in catfish culture ponds under a permitting system to be administered by the Department.

The Department approved a research proposal for three large-scale maintenance operation tests in public waters by Inland Fisheries Division personnel. The research goal was to refine stocking rates of triploid grass carp to achieve control, but not elimination of aquatic vegetation.

Two of the three research lakes have been stocked with the carp to control *Hydrilla verticillata*. The third reservoir is to be stocked in July 1994 to control native vegetation in a city water supply. Stocking rates per acre were determined using total acres infested, species composition, and biomass of each species.

In July 1993, permitting of triploid grass carp began for vegetation control in private and municipal waters.

A major concern in Louisiana is the possibility of overutilization of aquatic plants by triploid grass carp. However, another major concern is invasive exotic plants dominating our water systems and causing a loss of the native plant biodiversity and the organisms dependent upon that diversity. We must carefully weigh the expected results of either extreme and proceed cautiously with the management of these valuable waterways.

Overutilization of aquatic plants by a sterile organism is a reversible situation over time.

Loss of biodiversity and establishment of a monospecific population of exotic plants can result in severe restrictions on, or loss of, man's intended uses of the resource. It can also severely disrupt the natural ecological balance of our waterways.

In Louisiana, we are mandated by the Legislature to manage the water resource for multiple-use purposes. A major issue in water resource management is user group conflicts. Conflict resolution is the order of business to manage any of these systems. However, aquatic managers must not be unduly influenced by any one user group or groups to manage for their special interest at the expense of the resource or other user group interest.

A self-defeating inconsistency on the part of misguided individuals seems to result from an inability to discriminate between ecologically useful (nonpersistent and limited effect) and ecologically harmful (persistent and broad-spectrum effects) resource management.

I suggest that our failure to manage living, natural resources will, more often than not, cause rather than prevent continuing declines in desirable environmental quality. To preclude efforts, as suggested by some, to undo man-caused blunders of the past, such as the introduction of harmful exotic species as water hyacinth, *Eichhornia crassipes*, hydrilla, etc., would be an ecological tragedy.

Grass carp alone are not the answer to aquatic vegetation problems. They are a potential tool for aquatic vegetation management. Grass carp could be damaging to the aquatic environment when used incorrectly and/or without safeguards.