

TEXAS-SIZE EXOTICS

Dan Thompson, Summerville, SC, sent AC a clipping from the Navy Times, 10/31/83. It was from a regular column, "The World Outdoors," by Jack Randolph. Title of his column: "Innovative Texans Now Stock African Nile Perch." The basic message was as follows:

"The first-ever introduction of hatchery-produced African Nile Perch in the United States occurred at Lake Fairfield, Texas, recently. Nick Carter, Texas inland fisheries research coordinator, said release of approximately 1000 of the fish was the culmination of nine years of research.

"Carter said that although the number of fingerlings was small, he expects additional fish to be harvested from other rearing ponds and stocked in the next few weeks. We hope to have enough to stock the 2350-acre lake at the rate of 100 Nile Perch per acre," Carter said.

Dan wrote, "Somehow I just can't imagine releasing Nile Perch intentionally into our waters."

The department is also contemplating introduction of "Peacock Bass" (Cichla ocellaris & C. temensis).

Governments have been among the chief offenders in introduction of exotics which have eventually wreaked havoc. Often this has been done in the name of conservation or ecology. Is this shaping up as just such a disaster? One hopes not. And the Navy Times article cited three reasons why this introduction was being planned with the greatest of care:

--first, the introduction allegedly follows nine years of study;

--second, one of the virtues claimed for the Nile Perch is that they will eat the Tilapia that apparently infest Lake Fairfield--introducing one exotic to control another; and

--third, apparently the lake is heated by a power plant discharge; this is necessary for the perch to survive the Texas winter.

We wrote to Mr. Carter and received the letter that follows. He enclosed several research reports. We have referred them to an ichthyologist-member for analysis, and will seek further opinions as well. But especially, we want to hear from our Texas members. What have Texans heard about this? What is your (Texans') opinion? What does the site look like, and is it as failsafe as implied by the letter? Other members are also invited to express their views.

TEXAS-SIZE EXOTICS, cont'd.



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February 14, 1984

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Mr. Bruce Gebhardt  
North American Native Fishes Association  
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Dear Mr. Gebhardt:

Please find enclosed a publication of our research on Nile perch in Kigoma, Tanzania, located near Lake Tanganyika. Also I have included some other articles involving studies of peacock bass from South America that I thought might be of interest.

The Nile perch study was a cooperative effort between the University of Texas and the Texas Parks and Wildlife Department. Financial support was received from several power and light companies and the Federal Aid in Sport Fish Restoration Act (Dingell-Johnson Act). Dr. Clark Hubbs and myself directed the study to evaluate Nile perch as a possible management tool for control of rough fishes in heated reservoirs.

Texas has probably more heated powerplant reservoirs than any other state in the Nation. These waters are anything but natural. They normally are located on a small watershed off a mainstem river. Water levels usually have to be maintained by pumping. Water releases are rare, if not nonexistent. The growing season for fishes is extended because of an increased heat load. Fish growth is accelerated and spawning prolonged. Powerplant reservoirs often have enormous numbers of forage fishes such as threadfin shad and tilapia.

Tilapia bear special consideration. They are tropical exotics that have found their way to Texas and into many powerplant reservoirs. They are extremely prolific in these heated climates, attaining masses of over 2,000 pounds per acre. When tilapia reach such high densities they become problematic in several ways. They usually dominate lake populations within three to five years. Shad, the major food item for native sport fishes, and which normally constitute 60% of the reservoir fish community, will decrease to about 5%. Tilapia compete with largemouth bass and panfish for spawning habitat and feed to some extent on tiny gamefish larvae. Last, but not least, tilapia sometimes clog intake screens of power plants and cause operational shutdowns.

Several conclusions can be made about tilapia. They are detrimental to native fishes. They can interfere with plant operations. They are here and will be forever. Tilapia definitely will not be eradicated.

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Our attitude is that since we are burdened with this exotic our best recourse is to find ways to manage it. This Department is investigating the use of non-entangling nets to help in tilapia removal. We should see some measure of control through netting, but realize if it is not sustained the tilapia will recover quickly.

Another area of investigation is intensive stocking of large predator fishes such as red drum, hybrid striped bass, Florida bass, and blue catfish. Predatory control of tilapia has not been reached, but an outstanding sport fishery has resulted from these introductions. Current stockings will continue with new predator species added until an impact on tilapia is seen. The new predator species include various marine species that can be tempered to freshwater, peacock bass from South America and Nile perch from Tanzania.

Both exotics, peacock bass and Nile perch, were selected for use in the tilapia control program because of their highly predatory nature, sportfish reputation, eating qualities, and inability to withstand ambient winter temperatures. These fishes are thermally restricted.


We are studying four species of Nile perch, Lates mariae, L. microlepis, L. augustifrons, and L. niloticus. L. niloticus is from Lake Turkana, Kenya. The first three named seem to suit our needs best. L. mariae is the species stocked into Fairfield and it attains a maximum weight of around 18 pounds. L. microlepis and L. augustifrons are still under laboratory study. They reach weights of around 32 and 180 pounds, respectively.

The stocking of Nile perch is in the small trial introduction phase for evaluation under controlled conditions. We too are concerned about exotics that might overpopulate and spread to non-targeted areas. However, we feel that the high lower lethal temperature for Nile perch and the lack of water releases from powerplant lakes are adequate control methods for this species.

Hopefully, I have furnished a little more background information on Nile perch than your members found in the Navy Times. The Nile perch introduction in Texas is part of a fisheries management strategy to effectively minimize the detrimental effects of tilapia on native species, and on the ecology.

If there are further questions, feel free to call me at (512)479-4860.

Sincerely,



Neil (Nick) Carter  
Research Coordinator

NEC:fmd

Enclosures