



NEWSLETTER

of the Introduced Fish Section
American Fisheries Society

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Nick C. Parker, Editor

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FROM THE PRESIDENT

In our last Newsletter I identified a problem area of our Section -- membership numbers. Through some extra special effort of our Membership Committee, we reached the required number of 200 to maintain voting rights on the AFS EXCOM. I am concerned that it was necessary to recruit members. Our name and purpose was recently changed to expand our interests from exotic fish to introduced fish. Because there undoubtedly is some overlap of our activities with other sections (e.g. Fish Management, Fish Culture, Fisheries Genetics), membership dilution is to be expected. However, our current membership roster shows most of our Section members belong to at least 3 other sections. An extra \$4 or \$5 for a section membership apparently does not deter joining an additional section if useful. Only 25 members are enrolled in just the Introduced Fish Section. A review of our 1984 membership list shows 102 names that are not on our 1986 list. Our first roster for 1987 identifies 142 members. The AFS central office advised that annual renewals are a slow process and "not to panic yet." We apparently are attracting new members each year but -- because of some dissatisfaction -- we are failing to retain them (actually a problem of the entire Society).

Although we have had numerous symposia and other activities in the past, these involved a relatively small number of members and, as suggested in our November Newsletter, the Newsletter appears to be our major product. We have tried to provide items of interest based on our official contacts. We also have attempted over the past few years to get help from you through the Newsletter for items or for special reports and received essentially no response. We even continue to try later in this issue. I often wonder, Does anyone read our Newsletter?"

A colleague in this Section feels it is unreasonable to expect Section members to correspond with the Newsletter Editor. Because a major role of all sections is information transfer, I

argued against his statement and feel our Newsletter is the forum which we all should use. The lack of members' response over the past few years proves him correct.

Because we have been unable to arouse members in the past, we will follow an example set by the Early Life History Section. I am in the process of appointing Regional Representatives who will contact section members in their area for items of interest. They, in turn, will be requested to write sectional reports and submit them to our editor. Hopefully, this will take the full burden off the editor and provide an even more informative Newsletter to Section members.

PENNSYLVANIA FISH COMMISSION AND PENNSYLVANIA POWER
AND LIGHT COMPANY COOPERATE TO ERADICATE TILAPIA

Pennsylvania Power and Light Company (PP&L) is cooperating with the Pennsylvania Fish Commission to eradicate the blue tilapia fish population from the Lower Susquehanna River in the vicinity of PP&L's Brunner Island Steam Electric Station (BISES) and Brunner Island Aquaculture Facility (BIAF). The Commission is revoking the permit for artificial propagation of tilapia in an effort to eliminate further "recruitment" of the species to the river. The Commission's position is that the permit was issued in error because blue tilapia is not an approved species for artificial propagation in Pennsylvania. The Commission believes that tilapia are not a desirable component of the fish community of the Susquehanna River. The exotic fish species, blue tilapia (Oreochromis aureus), was inadvertently introduced to the lower Susquehanna River from the BIAF sometime after October 1982--when the first shipment of blue tilapia was received (Skinner, W.F. 1984, Proc. Penna. Acad. Sci. 58:99-100). Propagation of blue tilapia has been carried out by BIAF under an annually-renewed permit from the Commission. Monitoring for blue tilapia by PP&L biologists began in 1983 in conjunction with a routine fish sampling program in the vicinity of BISES. Both BISES and BIAF are located between the York Haven (upriver) and Safe Harbor, Holtwood and Conowingo (downriver) hydroelectric dams which prevent upriver and retard downriver movement of the blue tilapia. BISES provides the only winter thermal refuge between the York Haven and Safe Harbor dams. The only other major thermal inputs to the river between BISES and the upper Chesapeake Bay exist at the Holtwood Steam Electric Station and Peach Bottom Atomic Power Station. However, because of configuration (Holtwood discharges directly into a hydroelectric dam) or design (Peach Bottom has cooling towers) these areas are considered relatively insignificant as blue tilapia thermal refuges. Without thermal refuges, the lower lethal temperature (5 - 8°C) of tilapia will not allow overwintering in these latitudes.

The first specimens of blue tilapia were collected in 1984 most abundantly in the vicinity of the BISES cooling water discharge plume, while a few specimens were collected as far

downriver as 78 air km from BIAF (and downriver from the three hydroelectric dams). PP&L informed the Commission (by letter) and the local scientific community (Skinner, W.F. 1984, Proc. Penna. Acad. Sci. 58:99-100) of the apparent introduction. Following indications that the species was reproducing and increasing in size, a formal study was initiated in 1986 by PP&L consultant, Muddy Run Ecological Lab, to document seasonal distribution, age and growth, reproductive biology and food of the river population of blue tilapia.

Studies have documented that the tilapia were reproducing and that the population was probably expanding and decreasing annually in size and range due to temporally antagonistic favorable and unfavorable conditions provided by the BISES cooling water discharge and the north temperate winters. However, preliminary study results have not demonstrated that the introduction was detrimental to resident fish populations. In fact, local anglers were fishing for and catching blue tilapia and a local bait dealer recently reported that juvenile blue tilapia were excellent bait for walleye, muskellunge, and largemouth and smallmouth bass. Interestingly, the stomachs of three smallmouth bass taken during Fall sampling contained tilapia, at a time when typical forage fishes (minnow and sunfishes) were abundant in the river.

BISES will implement load and flow modifications this winter in an attempt to effect eradication (i.e., via cold shock fish kill) of the Susquehanna River blue tilapia. The carefully designed plan, incorporating results from a site-specific lower lethal temperature-curation study being conducted by Dr. Jay Stauffer, Jr. (Penn State U.), must be carried out so as to cause minimal impact to resident fishes. Pre- and post-fish kill tilapia surveys are planned to ascertain if the eradication efforts are successful. For more information, contact W.F. "Ric" Skinner, Senior Scientist-Consulting, PP&L Ecological Studies Lab, 4417 Hamilton Blvd., Allentown, PA 18101. Phone: 215-398-9287.

News Release from Pennsylvania Power and Light Company

SAVE THE CICHLIDS DRIVE

A world-wide effort to save the cichlids in Africa's Lake Victoria has been launched by George Turner at the University College of North Wales. The lake's 200-300 cichlid species are being severely threatened with the possibility of extinction within 2 to 3 years as a result of predation by the introduced Nile perch, Lates niloticus. Nile perch were introduced into the lake in the 1960s to prey on the small cichlids and produce large food fish. The introduction was extremely successful as the population of the large predators (up to 200 kg) rapidly increased in subsequent years. However, it was a disaster to

both the resident cichlid species and to the local people. This intended new food fish was considered too oily and less desirable as a food fish than the smaller cichlids upon which it preyed. While it appears to be impossible to eradicate the Nile perch from Lake Victoria, it may be possible to remove some of the cichlids and establish captive brood stock to maintain the species. For additional information on the rescue effort, contact George Turner, School of Animal Biology, University College of North Wales, Bangor, Gwynedd, LL57 2UW.

Extracted from the Tropical Fish Hobbyist, P. 65, October 1986.

PEACOCK BASS COME TO FLORIDA

After completing a thorough investigation, it was concluded that the introduction of speckled peacock bass (*Cichla temensis*) in southeast Florida canals would be beneficial. When this large piscivore (maximum size ca. 13 kg) becomes established it, together with the butterfly peacock (*C. ocellaris*, maximum size ca. 4 kg) introduced last year, will convert overly abundant and underutilized exotic forage species into very valuable sport fisheries. Successful reproduction and continued overwintering of butterfly peacocks was confirmed in the primary study area. That this species is adapting well to the canal habitats of southeast Florida is indicated by blocknet population estimates of 47 fish per hectare in the primary study canal. Speckled and butterfly peacock bass have nearly identical lower lethal temperature (15°C) and upper lethal salinity tolerances (> 18 ppt), thus speckled peacocks are also expected to adapt well to these habitats. The population size of speckled peacocks is expected to remain low relative to butterfly peacocks; however, their much larger size and reportedly better sportfish qualities make this species an ideal candidate for their intended use as a trophy fishery. The primary study canal fish population continues to be monitored closely with only minor differences being noted between these data and data collected prior to the introduction of peacock bass. Pond production of peacock bass fingerlings continued and nearly 10,000 fingerlings were released in the primary study area. Based on the study success to date, a rule protecting peacock bass was adopted by the Commission.

Source: Paul Shafland, Second Annual Performance Report, Non-Native Fish Research, 1 July 1985 through 30 June 1986.

SHEEPHEAD MINNOW THREATENS PECOS PUPFISH

The rapid spread of the sheephead minnow (*Cyprinodon variegatus*) in the Pecos River drainage of Texas has caused

concern among southwestern fish experts. Through hybridization, the sheephead minnow is rapidly eliminating the native Pecos pupfish (*Cyprinodon pecosensis*), a Category-2 listing candidate, from the drainage. Most of the Pecos pupfish range in Texas has already been lost, and only a low dam has prevented the spread of the exotic sheephead minnow into New Mexico. To better understand the dimensions of the problem, the FWS has contracted a study through the Oklahoma Cooperative Fish and Wildlife Research Unit. Dr. Anthony Echelle will conduct the study to determine the extent of hybridization and try to find a method to prevent contamination of the remaining Pecos River in New Mexico.

Reprinted from Endangered Species Technical Bulletin 11(8-9):8, August-September 1986.

KEMP'S LARGEMOUTH BASS

Officials of the Texas Parks and Wildlife Department in Austin, Texas, have announced that the hybrid cross between Florida largemouth bass and the native (northern) largemouth bass now will be called "Kemp's largemouth bass."

The action was authorized by the Parks and Wildlife Commission to recognize the career of Bob Kemp, who served as Director of Fisheries 14 years and pioneered experiments with bass genetics. Kemp died in a Dallas hospital on Dec. 22 following heart surgery. Officials stress that the Kemp's largemouth bass designation does not alter or create a new scientific name.

It was Kemp's introductions of Florida-strain largemouths that are responsible for the state record being equaled or broken 24 times between 1980 and 1987. Virtually all the fish on the state's top 20 largest bass are either Florida bass or Kemp's largemouths.

Reprinted from Texas Parks and Wildlife News, 21 Jan 1987 issue, p.1.

TROPICAL FISH DATA BASE AND COMPUTER BULLETIN BOARD

Since so many species of introduced fish initially enter the country through the aquaria or tropical fish trade, many Section members may be interested in a new computer information service. A news release (condensed by the Editor) from CompuServe in Columbus, Ohio announces availability of the following:

The Aquaria & Tropical Fish (ATF) Forum is a special interest group Forum available through videotext service. While

created primarily to serve the information needs of the aquarium hobby and industry, the ATF Forum has moved into the aquatic sciences and now includes the fields of marine biology, aquaculture, fisheries science, and ichthyology. The ATF Forum provides a computer medium through which individuals can discuss and debate the issues impacting both research and practical applications.

The Forum provides three different information resources. These are Message Boards, Conferences and Data Libraries. There are files of species accounts of marine and freshwater fishes and files on all of the practical aspects of aquaculture (breeding, feeding, and care and maintenance of aquarium species). There are profiles of participating organization (i.e. public aquariums), and of the various commercial members (i.e. breeders, dealers, wholesalers, importers, collectors, and manufacturers). There are product information files, and files on how to make better use of the Forum itself.

The complete, textual contents of the Journal of Aquaculture & Aquatic Sciences, the only international, peer-reviewed, English-language journal covering aquarium science and technology, is contained in the Forum. The Forum also contains the CODEX of Fishery Chemicals, a single, authoritative source of information on specifications, and procedures to confirm these specifications, or drugs, chemicals and feed additives for fisheries (aquaculture, aquariculture, mariculture, and sport and food fisheries) and aquatic plant husbandry.

The ATF Forum is available exclusively on CompuServe. It is accessible 24 hours a day on either the network (local telephone numbers available in over 800 cities in the US and Canada) or via satellite using Tymnet or Telenet communication services. In addition, the Forum is accessible from nineteen foreign countries. For more information on the Forum contact the ATF Forum's system operator:

John Benn
1204 Firestone Avenue
Muscle Shoals, Alabama
35561, USA
(205) 381-4945
CompuServe ID# 76703,4256

If you are already a CompuServe subscriber just enter "GO FISHNET" at a system prompt.

NOTE: If Section members have used this service and would like to report on its application, please send your comments to the Editor of this Newsletter. (Help! Give me some input! Signed Nick C. Parker).

GRASS CARP FOUND IN GALVESTON BAY

The first verified capture of white amur (grass carp) in Upper Galveston Bay was reported by the Texas Parks and Wildlife Department. Crews running survey gill nets in June 1986 caught an adult 8-pound male and 10-pound female near Morgan's Point; neither fish was in breeding condition. White amur are on the state's list of prohibited fishes. However, they have been found in both the San Jacinto and Trinity Rivers, which empty into Galveston Bay. According to biologist Val Castellano, white amur can withstand salinities up to 10.5 parts per thousand for up to 24 days.

Extracted from Texas Parks and Wildlife Newsletter.

BUYERS BEWARE

Introduced or imported fish are not the only thing of concern to the U.S. Fish and Wildlife Service. When it comes to buying wildlife products, it's a jungle out there! And though exotic animals and plants appear enticing in foreign market places, the prospective buyer is entering a realm where the laws are complicated and the pitfalls are considerable.

It's a world where, in most cases, you're on your own! Each year, more than 10 million Americans travel abroad, many of them to regions of the globe that support a flourishing trade in exotic birds and animal, fashionable jewelry and furs, and unique tropical plants. American globetrotters spend an estimated \$14 billion while traveling, much of it for souvenirs, curios, and other collectibles commonly fashioned from foreign wildlife and plants.

While some of these products are legal to import into the United States, many others run afoul of Federal and international laws protecting animals and plants that are facing extinction. Often what begins as an enjoyable vacation ends with a bitter lesson as these "illegal aliens" are confiscated, leaving the traveler with nothing more than a depleted bankroll and a receipt for seized property.

"The old adage, 'Let the buyer beware,' has never been more appropriate to a situation than it is to wildlife trade," says Frank Dunkle, Director of the U.S. Fish and Wildlife Service, the Federal agency responsible for the enforcement of the Nation's wildlife laws protecting endangered species. "People who have, in many cases, innocently thought their wildlife purchases abroad were legal have learned the hard way that it's best to 'know before you go.'"

Now the Fish and Wildlife Service, in cooperation with the World Wildlife Fund--U.S., has developed a new brochure alerting travelers to the pitfalls of buying wildlife products abroad.

"Buyer Beware!" describes the animal and plant products that are most commonly sold in foreign countries and whose importation into the United States is illegal. It also explains the Federal and international laws and treaties under which the Fish and Wildlife Service seeks to stem the growing trade in illegal products and to promote the conservation of the world's endangered wildlife.

Because of the complexity of regulations governing wildlife importation, "Buyer Beware!" advises travelers with specific questions about certain countries they will be visiting, or products, to contact the U.S. Fish and Wildlife Service or the World Wildlife Fund well in advance of their trip to obtain more detailed information.

Single copies of "Buyer Beware!" are available free from the U.S. Fish and Wildlife Service, Publications Unit, Room 148 Matomic Building, 1717 H Street NW., Washington, DC, 20240.

Source: News release, U.S. Fish and Wildlife Service, 29 Sep 1986.

REPORT ON EXOTICS AND AQUACULTURE

The National Aquaculture Improvement Act of 1985 charged "the Secretary of the Interior, in consultation with the Secretary of Commerce, shall undertake a study, and report to Congress thereon by December 31, 1987, to identify exotic species introduced into the United States waters as a result of aquaculture activities, and to determine the potential benefits and impacts of the introduction of exotic species." The responsibility for this work was given to the Fish and Wildlife Service's National Fishery Research Laboratory, Gainesville, Florida. However, funds were not appropriated for this activity and the "study" was redesignated as a "literature review."

Much information is readily available from a few summary publications on exotic fishes. Because of time and money constraints a "mail survey" for new information will not be conducted. It is hoped, however, the review will be supplemented by information from the Laboratory's contacts with other agencies and the industries. If you know of pertinent current information on the subject -- beneficial or detrimental -- please send it to the Laboratory. The review will include plants, invertebrates, amphibians, and fishes (fresh- and saltwater). A summary of the report will be published in this Newsletter. The address is:

National Fishery Research Laboratory
7920 N.W., 71st Street
Gainesville, FL 32606

AFS DIARY

The AFS Diary is a weekly report prepared specifically for the Executive Committee. The society's central office has received numerous requests to publish it or something similar in Fisheries. Consequently, Executive Director Sullivan has asked each Section and Division to appoint a representative for a Diary Liaison Committee to identify items from the weekly Diary to publish again in Fisheries. Our Section's representative is Hugh Barwick, Duke Power Company, Huntersville, NC. The first summary version was published in the January-February, 1987, issue of Fisheries.

ICHTHYOLOGISTS AND HERPETOLOGISTS MEETING

"The Role of Introduced Fishes, Amphibians and Reptiles in Natural Systems" is the title of a symposium scheduled at the Third Annual Meeting of the Society of Ichthyologists and Herpetologists, Albany, New York, June 21-26, 1987. The symposium was organized by Section members Peter Moyle and Walter Courtney. The symposium will examine the roles played by established introduced fishes, amphibians and reptiles in natural ecosystems at both population and community levels.

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