The Pelican Post

Weeks Bay Reserve Foundation Newsletter
April 1997

Welcome to the official newsletter of the Weeks Bay Reserve Foundation. Articles of interest to bay watchers, wetland watchers, and others interested in the coast and in nature will be featured.

Annual Weeks Bay Reserve Foundation membership meeting Tuesday morning, April 29, at 8:00 am. Please try to attend... we need your support!

Friends of Weeks Bay, "We need your help"!

Weeks Bay and the National Estuarine Research Reserve System (NERRS) need your help. Congress will soon determine 1998 funding levels for the NERRS, including federal funds to support continued operations, research and education at the Weeks Bay Reserve. We urge you to support needed increases in federal funds, to meet the needs of an important national program. **Here's how you can help. Write one letter and send copies to Congressmen Sonny Callahan, and Robert B. Aderholt, and Senators Richard C. Shelby and Jeff Sessions** (see addresses) **and urge them to support the NERRS with a line item of $7 million for Section 315/NERRS and $6 million in NOAA construction funds for FY 98. Let them know that:**

- By 1998 it is expected that six new Reserves will join the Reserve System making it imperative that federal support keep pace with this expanding system.
- The NERRS is a federal/state partnership. Federal funds invested in this program leverage significant support from state and local programs.
- The Weeks Bay Reserve works in partnership with the local community to promote informed coastal management. Topics range from restoration of wetlands to sediment control and monitoring of water quality.
- Management practices and the results of research are shared with over 20,000 people each year through education and outreach programs.
- NOAA construction Funds totalling $6 million for FY 98 are needed for the completion of research and education facilities at NERRS sites.
- **Urge your Congressional representatives to contact the House Appropriations CJS Subcommittee, chaired by Rep. Hal Rodgers, and voice their strong support for the NERRS in FY 98: $7 million for Section 315/NERRS and $6 million for NOAA construction.**

We thank you for your continuing interest in the Weeks Bay Reserve. and strongly encourage you to let your voice be heard at a very important time. **Please act now!**

ADDRESSES

Senator Richard C. Shelby
110 Hart Senate Building
Washington, DC 20510

Senator Jeff Sessions
Russell Senate Building # 495
Washington, DC 20510

Congressman Robert B. Aderholt
1007 Longworth
Washington, DC 20515

Congressman Sonny Callahan
2418 Rayburn Building
Washington, DC 20515

John Borom presents a plaque of appreciation to **Mrs. Ottilie Halstead.**

The recent generosity of **Mrs. Ottilie Halstead** will permit the Foundation to fund the $25,000 match required to construct the Kurt G. Wintermeyer Nature Trail. This boardwalk will provide access to the carnivorous plant bog on Highway 17 for education, research and enjoyment. The bog is outstanding this time of year with many unique species of carnivorous plants in bloom, such as White-topped pitcher plant *(Sarracenia leucophylla),* Parrot pitcher plant *(Sarracenia psittacina)* and Threadleaf sundew *(Drosera filiformis).* With this generous gift, the trail will become a reality this year.

Mrs. Ottilie Halstead and her cousins from Germany at the bog.

Public School Education

March has been a busy month for visits from Estuary-Net teachers and their students. High school marine biology classes from Robertsdale (**Mrs. Simms**), Foley (**Mrs. Henson**), Fairhope (**Mrs. Bishop**) and Perdido School's eighth graders (**Mr. Pimperl**) were participating in a variety of activities. Ten boat trips were given for estuarine nature interpretation and for students to test the water quality of Weeks Bay. Students were seining at Mary Ann Beach Park or working on a scavenger hunt at the Reserve as a follow-up activity after their trip aboard the Estuarine Queen. Cowpen Creek, at County Road 33, has been the site for Estuary-Net students to measure water quality with a macroinvertebrate survey, water velocity and volume discharge. **Karen Bishop** brought her class for a self-guided tour of the Interpretive Center and boardwalk. Her classes have been monitoring a site on Fish River as part of our watershed monitoring project.

AmeriCorps

From January 13th through February 14th, thirteen volunteers from the AmeriCorps Program of the National Civilian Community Corps gave their time, energy and muscle to the Reserve. The AmeriCorps service program provides volunteers to complete needed projects for environmental, educational, and safety enhancement needs. This year they completed over 2 miles of trails and cleared an area for a future arboretum. They also cleared brush from the bog and from the boardwalk loop that opened up a lily pad stream to more sunlight and better public viewing. Their efforts are helpfull and appreciated.

Elderhostel

The University of South Alabama and the Weeks Bay Reserve continued their partnership in conducting two 3-day Elderhostel programs and two 1-day programs in February and March. The participants hailed from nearly every state and even from Canada. Their enthusiasm and interest made for several fun days as they were introduced to the importance of estuarine and coastal environments. The members of the 3-day program were treated to a wildlife-filled boat tour on the Magnolia River where osprey, great blue herons, grebes, mergansers, kingfishers, pelicans, egrets, and least terns were easily viewed and enjoyed. Faulkner State Community College also had three Elderhostels visit the Reserve for half day sessions during February and March.

Did You Know?

From a culinary standpoint the oyster is a food, inviting, easily digested and high in nutritive value. Most people who have eaten oysters will tell you that they like oysters because they taste good. They like that zestful, tangy, salty and different flavor and let it go at that, few know why or care less. There is an answer to this, however, and it is quite simple to the biologist: the meat, the muscle sugar, the vitamins, the salts of the estuary are present in oysters in just the right amounts and in just the right balance to stimulate the taste buds of our palates in such a way that we are aware we are eating something enjoyable. Vitamins A, B and D, phosphates and chlorides, necessary for healthy bones and teeth; magnesium salts, glycero-phosphoric compounds, carbohydrates, protein in large quantity and in easily digested form, all are found in oysters. Copper and iron, the metals so important for the prevention and treatment of almost all types of anemia, are present in sufficient quantities in oysters to make possible their recommendation as an "anti-anemic" food. Iodine, the element so widely known for its value in goiter prevention and treatment is found in all oysters. One average-sized oyster a day supplies five times the amount of iodine we must have for sound health.

ESILL

The Reserve offered a coastal ecology course through the Eastern Shore Institute of Lifelong Learning (ESILL) recently. Thirteen interested citizens enjoyed learning about lowland forests, water quality, endangered species and wetland functions.

Calendar

April	
29	Annual Foundation Membership Meeting. Interpretive Center 8:00AM
May	
1	Weeks Bay Advisory Committee Planning Meeting. Interpretive Center 2:00 PM
6	Watershed Project Citizens Advisory Committee Meeting. Interpretive Center 6:00 PM
6-8	Elderhostel, hosted by Univ. Of South Alabama. Interpretive Center
10	River Clean Up Day for Fish and Magnolia Rivers. Call 928-9792 for details
29	Weeks Bay Advisory Committee Meeting. Interpretive Center 2:00 PM
June	
23-27	State-wide Non-Point Source Pollution Teacher Training Workshop. Interpretive Center call 928-9792

Alabama Water Watch

Auburn University hosted the **1st Annual Alabama Water Watch Technical Conference** on February 22nd. Technical papers were given on a variety of topics pertaining to water quality in Alabama streams and rivers. A paper by Weeks Bay volunteer water quality monitor **Paul Hansche** was presented by Reserve staff person **Bob McCormack. Dr. Hanche's** efforts, through the Weeks Bay Reserve Foundation, compared two different methods for counting fecal coliform bacteria colonies in water samples, favoring one method that is now adopted by the Alabama Water Watch Program. **Dr. Hanche** has been instrumental in the fecal coliform and E.coli research at Weeks Bay.

Constructed Wetland

A constructed wetland is planned for the treatment of sewage for the new Research and Educational Facility. This will be used as a demonstration project illustrating one of the alternative designs available for low lying areas with typically a high water table. Currently, funds are still being sought for full development of this constructed wetland. If you would like to help with this project, call 928-9792.

National Research Fellowships Awarded

The National Oceanic and Atmospheric Administration, through the National Estuarine Research Reserve System, awarded funding to Weeks Bay for two Graduate Research Fellowships. The awards will be received for **Scott Phipps** of Mississippi State University for his proposal *"Effect of the Arsenic/Phosphorus Ratio on Benthic Microalgal Assemblage Structure in an Estuary"*; and to **Kelly Shotts** of the University of South Alabama for her work on *"Non-point Source Nutrient Inputs and Their Role in the Food Web of Weeks Bay"*. Both studies will be important for Weeks Bay and its watershed.

Management Plan

The Weeks Bay National Estuarine Research Reserve five-year management plan is under way. The focus of this project is to involve the Reserve Staff, Advisory Committee and the Weeks Bay Foundation Members in long term planning of the goals and objectives of the Reserve. Principally, the five-year plan will address these areas: 1) management and staffing 2) education 3) research 4) volunteers and 5) community outreach. Because the Draft Management Plan is the template for the future, we need your input and support. We want to know how the Reserve can continue to serve the community and build for the future. In short, we need your help in determining the course of the Reserve in the next five years. These steps will ensure that the Weeks Bay Reserve will continue to grow and excel in protecting natural resources, increasing education programs , attracting independent and associated research within the Reserve and increase public awareness of the value of land, water, and natural beauty.

Specifically, we need your input and involvement! You can send comments and suggestions to **L.G. Adams** at the Reserve.

Watershed Project Hosts Agricultural Field Day

The Weeks Bay Watershed Project sponsored an Agricultural Field Day on February 18th at the Reserve's Interpretive Center. Approximately 25 farms in the watershed were represented at the event.
The program began with an overview of water quality and Watershed Project initiatives. **Tina Lynn,** Project Coordinator, presented a summary of water quality data collected by the Geological Survey of Alabama, U. S. Geological Survey, and citizen monitors. These data documented the primary water quality concerns that include nutrient enrichment, low dissolved oxygen content, and high bacteria counts. **Carey Bentley**, chair of the Watershed Project Citizens Advisory Committee discussed recent activities of the CAC and stressed the importance of farmer participation in solving non-point source pollution problems. **Ed Tunnell,** with the Alabama Cooperative Extension System, and **Larry Morris**, with the Natural Resources Conservation Service gave an overview of conservation practices that can be used to reduce nonpoint source pollution and a description of some of the federal cost-share assistance programs that are available. A luncheon was sponsored by the Baldwin County Farmers Federation. Following lunch farmers boarded a bus for a watershed tour to view agricultural conservation practices that are already being used by local landowners. The success or failure of a nonpoint source pollution control project depends on the participation of landowners.

While most of the farmers in the watershed pride themselves in being good stewards of the land, that does not mean that they are not confronted with problems with runoff and erosion.Weather conditions can be unpredictable and in the contiguous United States. This region is second only to the Pacific Northwest in total annual rainfall. Even the most carefully planned management activities such as planting, harvesting, fertilizing or pest control can result in water quality impacts should weather conditions change.

The majority of the farmers participating in the field day have participated in voluntary Best Management Practice (BMP) programs in the past, such as the Soil and Water Conservation District's Weeks Bay Pollution Prevention Project. Many expressed frustration, however, at the public's negative perception of the impact of farming on water quality in the area and the failure to recognize and address other significant sources of pollution.

There are a variety of BMPs, that a farmer can use to reduce runoff and nonpoint source pollution. Some BMPs may be inexpensive to implement, such as retaining a strip of vegetation adjacent to a stream to filter pollutants from runoff. Others, however, carry a heavy price tag. A significant barrier for many farmers in the implementation of BMPs is cost. Most state and federal cost-share assistance programs are set between the 60% and 75% level, requiring the farmer to pay the remainder. The price tag for a farmer, on a project such as gully restoration or construction of underground drainage system, could be in the tens of thousands of dollars. Even so, many farmers have successfully implemented large-scale BMP projects on their farms within the Weeks Bay Watershed.

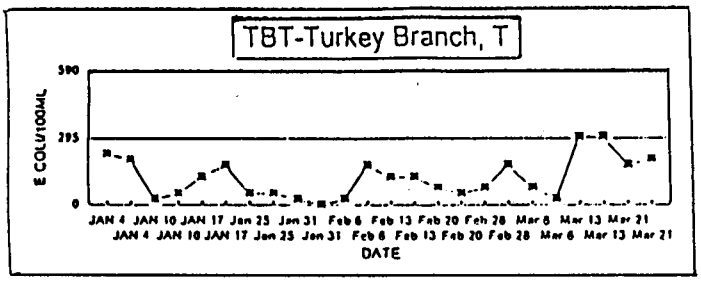
Water quality changes will require participation by a large number of landowners who live or work within the watershed. It is the goal of the Watershed Project to continue to provide technical and financial assistance to farmers and other large landowners for addressing pollution problems. It is important for all of us to support the agricultural community in their efforts, while gently applying pressure for more farmers to adopt these practices.

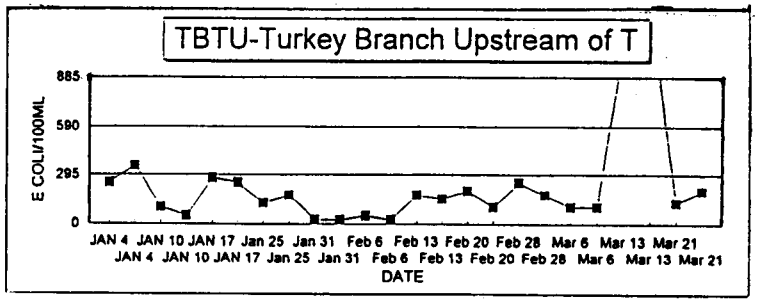
Erosion And Sediment Control Workshop A Great Success!!!

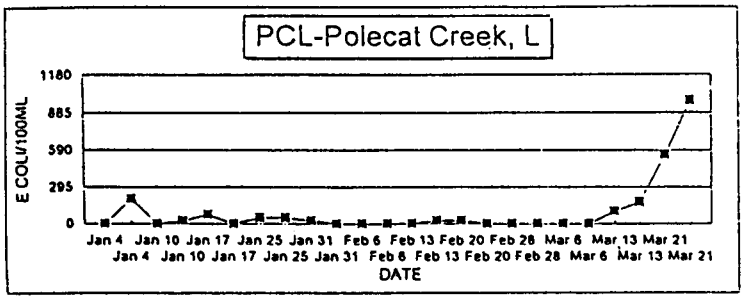
An erosion and sediment control workshop on April 17 in Fairhope was a tremendous success. This was sponsored by the Weeks Bay Watershed Project, Faulkner State Community College, Alabama Department of Environmental Management and Troy State University Nonpoint Source Education Program. Some fifty participants attended ranging in professions from engineers and contractors to interested citizens and community leaders. This technical workshop addressed the prevention of erosion and sedimentation in area watersheds and included speakers from many agencies, universities, and engineering firms. Workshop participants received a notebook with notes and other materials created by the presenters and workshop developers.

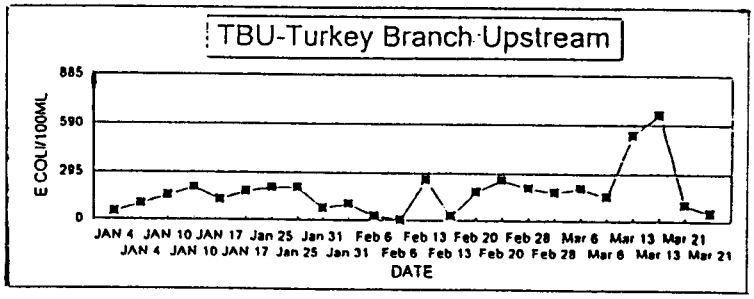
Construction Has Begun

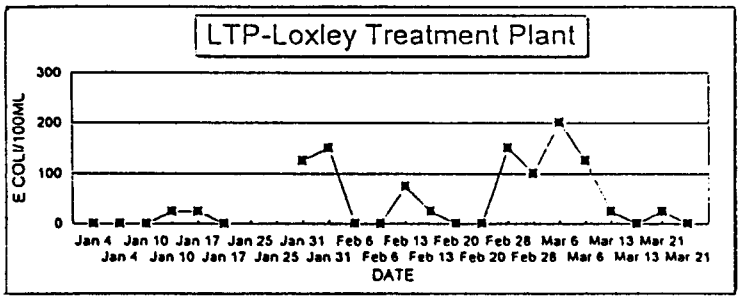
Construction has finally begun on the Research and Education Facility to be built next to the Interpretive Center. This facility, when completed, will house a multifaceted array of activities. The downstairs will be an educational auditorium for school group activities, workshops, and public meetings. The upstairs will provide dormitory space for visiting researchers, work stations, a small library and an office for research and GIS mapping activities. Construction started in early March and completion is projected some time in September.

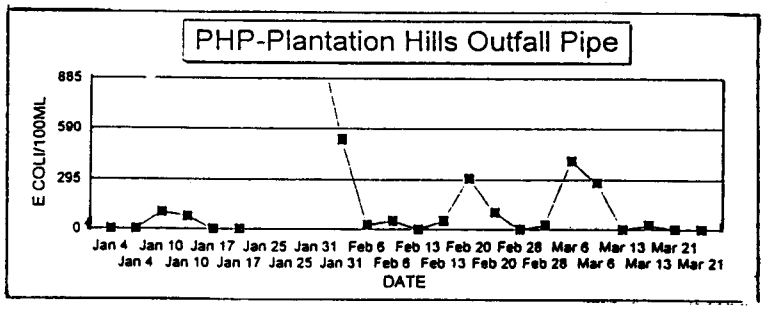


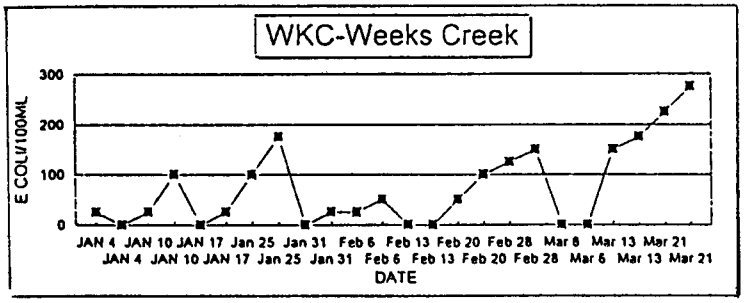


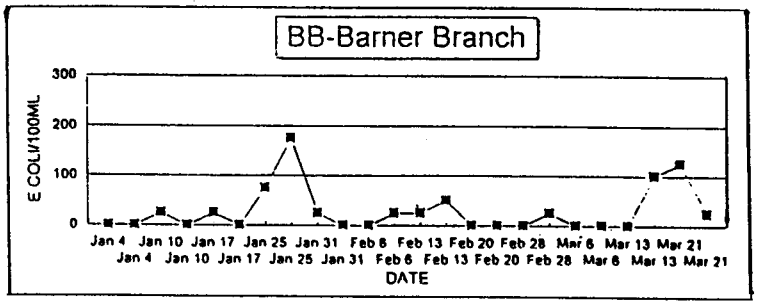


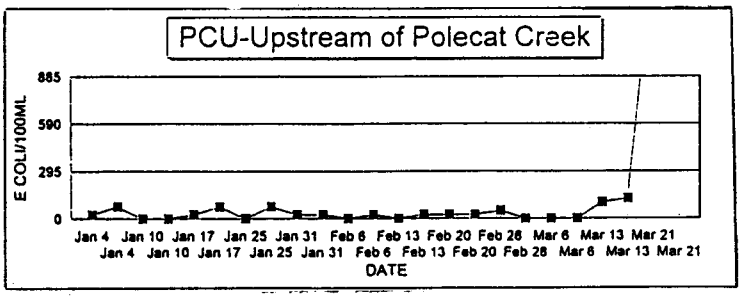


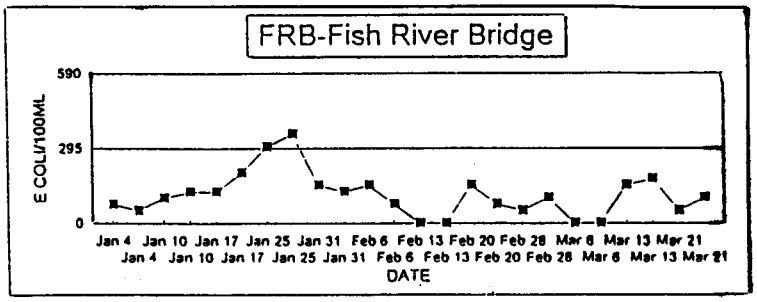






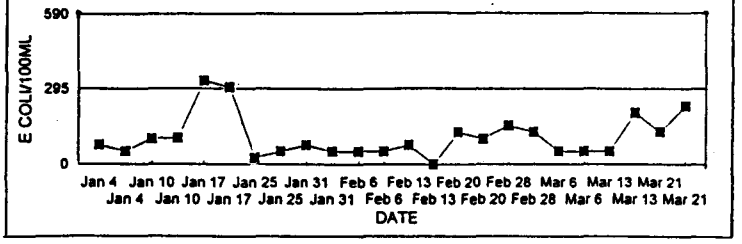




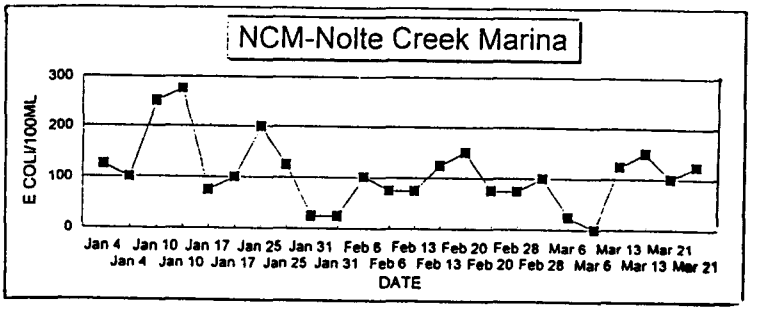


EPA LIMIT 295

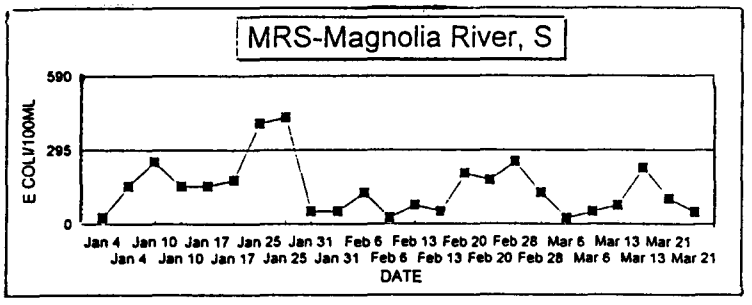
ESC-Eslava Creek



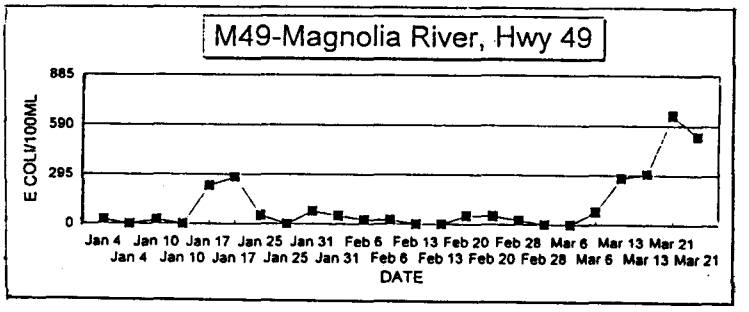
NCM-Nolte Creek Marina



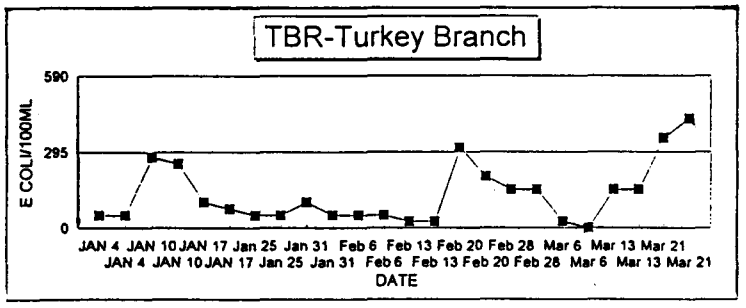
MRS-Magnolia River, S



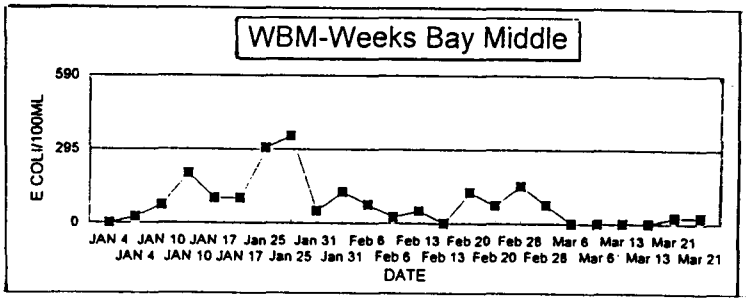
M49-Magnolia River, Hwy 49



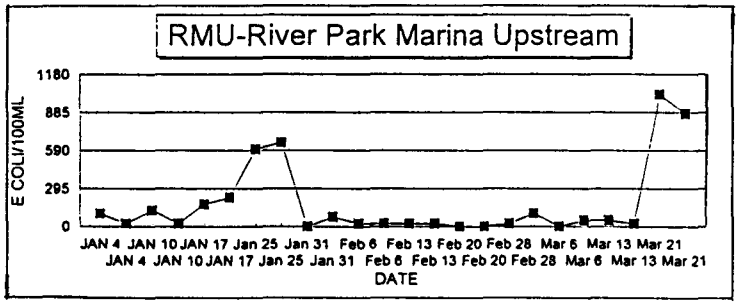
TBR-Turkey Branch



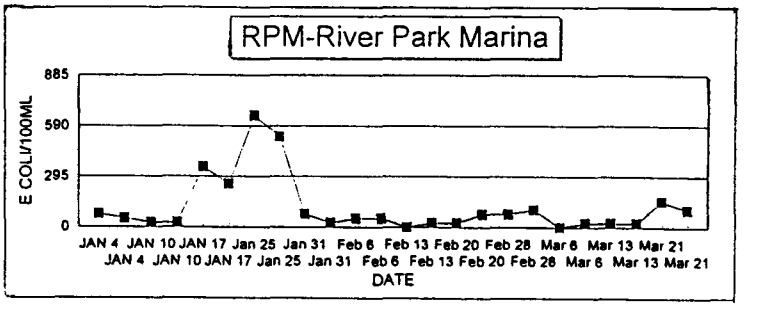
WBM-Weeks Bay Middle



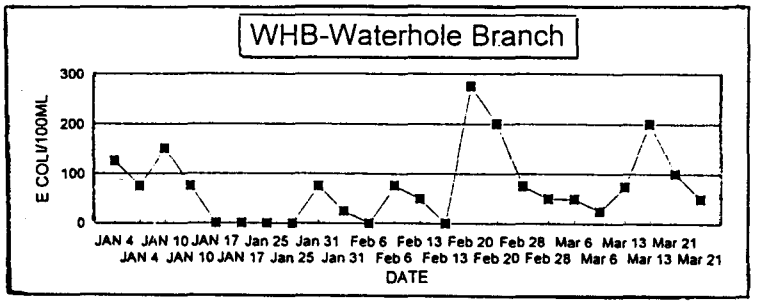
RMU-River Park Marina Upstream

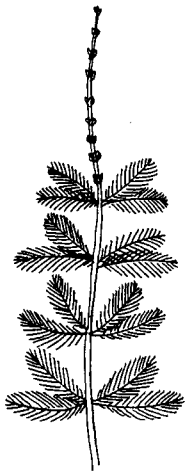


RPM-River Park Marina



WHB-Waterhole Branch





Eurasian Watermilfoil
Myriophyllum spicatum
Native to Eurasia

Water Hyacinth
Eichhornia crassipes
Native to South America

Introduction of Exotics

When a plant or animal is taken from its ecological context and placed into another environment, it will either disappear almost immediately or result in populations of pest magnitude. Often far too little is know about ecological relationships to be able to predict which course the introduced plants or animals will take in a new environment.

Nutria

The Nutria *(Myocastor coypus)* is a nocturnal aquatic rodent almost equal in size to an American Beaver. The coat is reddish-brown above, somewhat paler below with long coarse guard-hairs and dense yellowish underfur. The muzzle and chin are whitish. The eyes and ears are small and the hind feet are webbed. The incisors are dark orange, protruding beyond the lips. Adults weigh up to 25 pounds. It measures up to 40 inches in total length of which the scaly rat-like tail makes up somewhat less than half. The generic name is derived from two Greek works (mys, for mouse; and kastor, for beaver) that translate as mouse beaver. It is not native to North American, having been imported from South America into Texas and Louisiana as a fur bearer in the 1930s. The Alabama Department of Conservation introduced Nutria into the Mobile Bay Delta in 1948, 1949 and 1950 to control noxious aquatic plants which threatened to choke out open water that could be utilized by ducks. Since that time, Nutria have multiplied rapidly.

As agents in the control aquatic plants, Nutria have been greatly overrated. More often than not they eat vegetation that man does not want controlled, passing up water hyacinths, alligator weed, coontail and other objectionable plants that they are supposed to destroy. In the Mobile Bay Delta they have eaten tidal vegetation necessary to control wave action, and this has resulted in subsequent erosion.

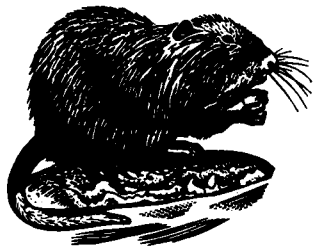
Direct competition between Nutria and the Common Muskrat *(Ondatra zibethicus)* is of concern when both species happen to be present in large numbers. The two similar animals living side by side in a coastal marsh compete for things other than food. They compete for living space or perhaps simply for high spots to which they can retreat for survival during high water. Nutria seldom injure Common Muskrats physically. Their competition for food and living space and harassing tactics are sufficient to prevent the latter from increasing at their full potential.

Nutria often amass quantities of readily available vegetation into sort of a platform which they use as a place of feeding and resting, or as a toilet and a place for their grooming operations. Often a Common Muskrat house is preempted for these purposes, as well as nesting quarters. Although Nutria can dig their own burrows in banks, they frequently take over old Common Muskrat burrows. When Nutria populations are high, their burrowing may undermine streams banks and do considerable damage to ditches in irrigated regions.

Although Nutria are adept at moving about on land, they are more at home in water, where they swim with agility, usually with the head and back out of the water and with the tail trailing on the surface. They are often seen moving about leisurely in the daytime, but their period of greatest feeding activity is at night. At dusk, a chorus of pig-like grunts may be heard. Nutria are strict vegetarians, consuming their food on land and while floating in the water, where they shove aquatic plants to their mouths with their fore paws.Nutria reingest fecal pellets in order to digest food more completely while at rest.

Their chief predator is the alligator, and it takes a heavy toll. In the 1950s and 1960s when the alligator population was low in the Mobile Bay Delta, the Nutria population was very high. The protection of alligators has resulted in an increase in their numbers, and this has been helpful controlling the Nutria population in recent years. Young Nutria are captured by a variety of creatures including turtles, gars, large snakes and birds of prey.

This is a classic example of an exotic species being introduced into an area before all of the possible ramifications and effects upon native wildlife have been examined. The Nutria exhibit in the Interpretive Center as well as the American Beaver *(Castor canadensis)* and the River Otter *(Lutra canadensis)* were donated by **Dr. Dwight Steedley** of the University of Mobile. The taxidermic preparations were funded by the Weeks Bay Reserve Foundation.



NUTRIA
Myocastor coypus

Nature's Calendar

Nutria breed year-round on the Alabama coast and are quite prolific. Courtship features much chasing, fighting and biting. The gestation period is about 130 days in duration, and the average number of young in a litter is five. A female can produce three litters a year. The babies at birth are fully furred and the eyes are open. They are able to swim with their mother a few hours after birth. The teats are located on the sides of the mother's back rather than on the belly, and the young are suckled as they swim. Some females wean their young at about five weeks, but others nurse up to seven weeks. Sexual maturity is reached before Nutria are fully grown. They sometimes begin breeding as early as the fourth month, but more often not until they are close to eight months old.

Did You Know?

Wild-caught Nutria fur is of little value, however, they are raised in captivity for breeding stock and fur. The long,coarse guard hairs are used in making felt for hats; the soft belly fur is used for coats and linings. Nutria meat is considered a table delicacy in Argentina and Eastern Europe. A recent Nutria cookoff, sponsored by the Louisiana Nature and Science Center, honored apple-smoked Nutria and wild-mushroom crepe in bourbon-pecan Nutria sauce. Nutria sauce piquante has been called a triumph, and Nutria etouffee is reported to be delicious. If the latest dish out of Louisiana by Master Chef **Paul Prudhomme** catches on, the Nutria problem may be partially solved by deep frying cubes of the rodent and serving it up in a French Quarter bistro.

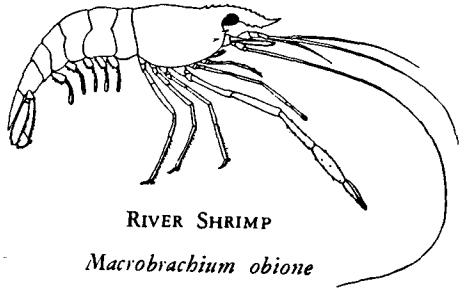
AMERICAN BEAVER
Castor canadensis

River Shrimp

The river shrimp *(Macrobranchium ohione)* inhabits the larger rivers in the Mobile River Basin as well as the Mobile Bay Estuary. This is the species which has always been considered a great delicacy and a food for gourmets along the Gulf Coast. Table size adults average about 100 to the pound. It is also a favorite in the bait industry as it lives long in captivity. The body is stout and cylindrical as compared to the marine shrimp, and captured specimens will crawl like crawfish rather than lie on the side.

It is taken largely by means of baited traps, using either meal or animal matter for bait. Another method, especially applicable in the upper Mobile Bay Delta is to suspend willow or wax myrtle branches in the water. A net is slipped under the branches as they are periodically lifted to the surface.

As with crawfish, the female deposits her eggs in an elongated pocket under her abdomen and they are held their until a few days after they hatch. The newly hatched young will leave and return to the protection of the mother for a time. Thus the females protect their eggs and young during what would otherwise be the most hazardous period in the life cycle, and a much smaller number of eggs is required to maintain such species than with the free-spawning marine shrimp.In the submerged grass beds in Mobile Bay, females with eggs have been collected in May and juveniles have been collected in September and October.



RIVER SHRIMP
Macrobrachium obione

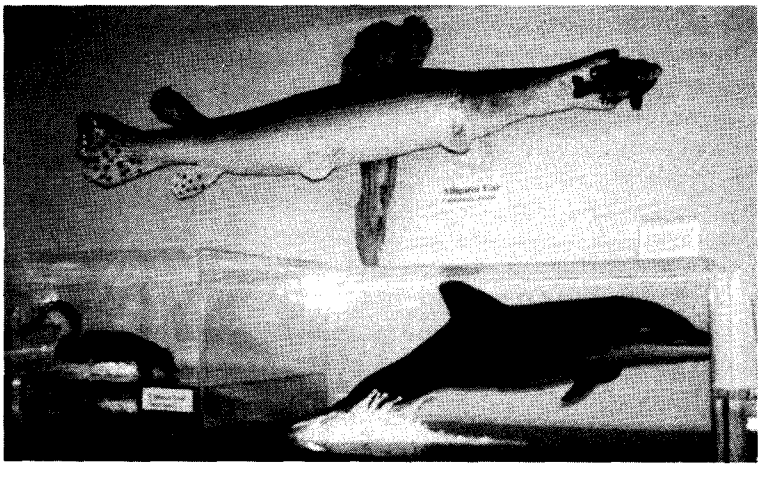
New Exhibit

A new exhibit featuring an alligator gar *(Lepisosteus spatula)* now graces the wall of the Interpretive Center. Many fisherman have aimed their spears at a gar only to see the weapon ricochet from the fish's heavy external armor. Close examination of this formidable protective covering reveals that it is composed of diamond-shaped scales arranged in diagonal rows of flat plates which do not overlap like most fish scales. In addition, these bony scales are covered with a hard, shiny substance called ganoine that is different from most fish scales, and have a different method of growth. The result is a sturdy outer layer which is difficult to penetrate.

The most impressive end of this large cylindrical fish is a ferocious-looking mouth extended into a bill-like structure, with two rows of large fangs on each side in the upper jaw. All other gar species have one row of teeth in the upper jaw. The vertebral column that supports the rounded tail fin turns up slightly, and this is considered a primitive characteristic.

Although a huge, strong and voracious fish, it is not infrequently found in bayous and ditches in which it is scarcely able to turn about. They are sometimes found near docks where commercial fishing boats unload and where scraps fall into the water that attract small fish. Much of the time they show little movement and appear to be suspended in mid-water. However, they can move extremely fast, especially when chasing food.

This six-foot, three-inch specimen was caught in a turtle trap in the Mobile Delta while **Dr. David Nelson** of the University of South Alabama was conducting research on the Alabama Red-bellied Turtle. The display was funded by the Weeks Bay Reserve Foundation.



Did You Know?

Because of their great activity and high metabolic rate, birds are voracious feeders. The Dunlin, *(Calidris alpina)*, is common to abundant on migration in winter on the Alabama coast. The species occurs most commonly on coastal mudflats and sandbars, either in pure flocks or mixed with other sandpipers. The dunlin may eat approximately 450 nereid worms per bird daily.

Funds for publication of this newsletter are provided by members of the Weeks Bay Reserve Foundation.

Suggestions and comments from readers on future topics of interest are welcomed by the editors. If you know of others who would be interested in receiving this newsletter, please have them send requests to be included on the mailing list to the return address shown on the panel below

JOIN US ! ! !

Weeks Bay Reserve Foundation

Weeks Bay Reserve Foundation is a non-profit organization whose members provide assistance and support to the Weeks Bay National Estuarine Research Reserve's goals and programs.

As a member, you will be joining a group of people with similar interests and concerns for natural resources. You can become directly involved with the Reserve's research and educational programs by volunteering to help with field trips, seminars, cultural events, newsletters and special projects.

You will be regularly informed of Reserve activities through newsletters, special mailings and meetings. The opportunities for involvement are unlimited. Whatever your talents or interests, the Reserve can use your support. You, the environment, and your community will benefit as a result of your membership. If you are not a member and would like to join, please mail this form, along with your tax-deductible donation to:

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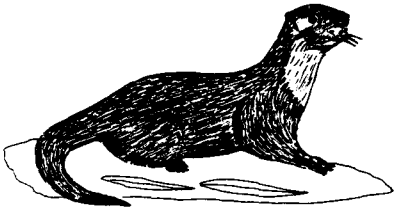
Things You Can Do To Protect Coastal Habitats

1. Avoid boating where your prop may damage sea grasses.
2. Avoid altering wetlands when constructing buildings.
3. Donate wetlands or funds for their purchase.
4. Do not drain or fill wetlands.
5. Learn and obey laws protecting critical habitats.
6. Support environmental education, land preservation, and the improvement of water quality.



RIVER OTTER
Lutra canadensis

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