



# The Pelican Post

Weeks Bay Reserve Foundation Newsletter  
Fall 1999

## Community Outreach and Education - Field Trips to the Reserve

From August 1998 through May 1999, 3,354 K-12th grade students visited the Reserve for volunteer led programs. Approximately 457 adults accompanied the students and also participated in the activities.

Children and adults visiting the Reserve are treated to a complete tour including demonstrations and "hands-on" opportunities in the Interpretive Center. School children can also identify native plants as they walk along the boardwalks leading to the bay and



(L-R) Evan Wheeler, Kyle Waybrin, Alex Sweeney & Wayne Davis



(L-R) Whitney Jones, Rachel Burden & Jaschelonn Caves

other states such as Florida, Mississippi, Louisiana, Tennessee, and the Carolinas.

**Margaret Holcombe**, Education Coordinator at the

Reserve, is an employee of the Baldwin County Board of Education. She is responsible for booking school groups to visit the Reserve.

If you are interested in having a group of students visit the Reserve, please call in advance to make reservations. Dates for school groups to have guided tours are August 1 - May 18 weekdays only. Tours for non-school groups are also available. Please call 928-9792 to make reservations!



Brooke Wilcutt

The Reserve welcomes energetic volunteers who would like to help with educational programs. You do not need a science background in order to help with tours. If you are willing to help, we will teach you everything you need to know through our volunteer training program. If you are not interested in helping with the education programs, but would like to volunteer, tell us your interests and we will find a place for you at the Reserve.

**Maureen Nation**, Volunteer Coordinator, would be happy to talk with you about becoming a Weeks Bay Reserve Volunteer.



(L-R) James Long, Volunteer Carol Orlick & Harper Hughes

river. The live fishes, amphibians, reptiles, and arthropods are highlights of every trip.

For older grade levels, activities are specifically designed and



(L-R) Chris Deer & Jacob Stanfield sein in the bay.

include visits along the bay and creeks to sein for aquatic life. These activities provide a "hands on" component to the high school science curriculum.

The majority of the classes come from Baldwin County Schools which include public, private, parochial and homeschoolers. The Reserve often books field trips for students from Mobile and other surrounding Alabama counties. Occasionally groups visit from



Willie Woodyard & Payton Fuller

## Reserve Joins GLOBE Program

An exciting new educational program, GLOBE stands for Global Learning through Observation Benefiting the Environment. The GLOBE Program is a hands-on, school-based, international environmental science and education program involving students in primary and secondary schools throughout the world.

The mission of each GLOBE franchise is to recruit, train, and mentor K-12 teachers, schools and other informal education organizations as they implement the GLOBE program. The Alabama GLOBE franchise was established in January 1997 with the University of Alabama in Huntsville as the franchise leader. It is supported by NASA Marshall Space Flight Center, Global Hydrology and Climate Center, Alabama Space Grant Consortium, Alabama State Department of Education, and many public and private school systems throughout the state.

In April of this year, **Margaret Holcombe**, Education Coordinator at the Reserve, attended a GLOBE teacher training workshop in Atlanta. As a GLOBE trainer, she will assist in training and mentoring Baldwin County teachers as they implement the GLOBE Program in their classes. To date, approximately 35 Baldwin County teachers have completed the five-day GLOBE training course. Funding for GLOBE equipment comes from the Baldwin County Board of Education Division of Curriculum and Instruction.

Components of the GLOBE program include taking GLOBE environmental measurements using GLOBE instruments and procedures; reporting observations to a GLOBE data processing facility; receiving GLOBE environmental images and using GLOBE educational materials; studying environmental topics in the classroom; and conducting GLOBE activities under the guidance of GLOBE-trained teachers.

GLOBE students take environmental measurements in several study areas including atmosphere and climate, soils, land cover and biology. Examples of measurements range from air temperature, precipitation, cloud cover, water temperature and surface water chemistry to soil moisture and tree height and circumference. Students correlate *in situ* or "on the spot" measurements with remote sensing data.

For more information on how your school or environmental organization can participate in this new program based at the Reserve, or for more details about the complete GLOBE program, contact Margaret Holcombe at 928-9792.



*Speaker Bill Finch visits with Blaine Cammon.*

## Finch Speaks to Full House

The September program of the Weeks Bay Reserve's Guest Lecture Series was a great success. Extra chairs were needed to seat the 86 folks who attended. The audience, ranging from pre-teen to octogenarian, thoroughly enjoyed the presentation by local botanist **Bill Finch**, Environment Editor at the *Mobile Register*, who authors a popular weekly column in the garden section.

Join us on Saturday, Nov. 20 for the next lecture, featuring **Tony Fisher** on sedimentation in Weeks Bay. (See Calendar on page 9 for details.)



### **Coming in the new Millennium...**

Mark your calendars now for the Fourth Gulf of Mexico Symposium coming to Mobile **April 9 - 12, 2000**, hosted by the Alabama Coastal Foundation in partnership with the Gulf of Mexico Program. This exciting event, open to the public, will feature keynote speaker **Dr. E.O. Wilson** of Harvard University, an Alabama native and biodiversity expert named by *Time* magazine as one of America's 25 Most Influential People.

Many Reserve staff and Weeks Bay Reserve Foundation members are actively involved in planning the Symposium. For information on attending, volunteering, exhibiting, or presenting a paper, workshop or poster, contact the Symposium office in Fairhope at 990-0818.

## ADULT EDUCATION

### Weeks Bay Nonpoint Source Pollution and Watersheds Workshop

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The Weeks Bay Watershed Project hosted a statewide workshop on nonpoint source pollution and the watershed concept on June 28 - 30. Many participants were from local governments or agencies who are interested in learning more about the public outreach and education components of the new MS4 Phase II regulations.

**Dennis Harrison** from the Alabama Department of Environmental Management (ADEM) gave an excellent overview of the new regulations, which communities may fall into these new guidelines, and how ADEM will be able to work with these communities.

Field trips included tours of best management practices by water and by land. Attendees saw a constructed wetland for domestic wastewater treatment, a cattle crossing on a local stream, and farming practices such as grass strips and contour farming.

This workshop was made possible in part through an EPA Section 319 Grant.

### Best Management Practices for Erosion and Sediment Control Workshop

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The State Soil and Water Conservation Committee, Troy State University, Alabama Department of Economic and Community Affairs, Baldwin County Soil and Water Conservation District, and Weeks Bay Watershed Project held a one-day workshop on erosion and sediment control fundamentals and practices on July 14. The aim of the workshop was to introduce basic concepts of soil loss and how to appropriately match best management practices (BMPs) to site design, construction, and maintenance.

More than 25 coastal area engineers, local government building inspectors, planning department officials, watershed leaders, and Natural Resources Conservation Service representatives gathered to review erosion control, sediment control, and runoff control. BMPs for construction sites were outlined for installation and maintenance. Constructing and placing sediment ponds was covered by **Hal Clarkson** from Woolpert Engineering. An afternoon field trip was arranged so that the group could discuss erosion and sediment control options for a planned 40-acre community park.

### On-Site Wastewater Management Workshop

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*Kevin White & Patti Hurley*

On Aug. 18, a one-day workshop was held at the Reserve to present information on alternative treatment systems for on-site disposal of sewage. In certain areas,

especially along waterways and the coast, typical disposal systems don't function properly and in most cases will not be permitted.

Registrants included concerned citizens and landowners, county commissioners, engineers, real estate agents, contractors, and septic system installers. The high attendance was encouraging, with the workshop being filled to capacity the week prior.

**Dr. Kevin White**, USA Department of Civil Engineering, was the main speaker covering topics from basic wastewater management to trends for the future. He compared conventional treatment to alternative on-site disposal, presenting the functional aspects of each with respect to environmental concerns and water quality in particular.

**Teddy King**, Environmental Supervisor with the Baldwin County Public Health Department, reviewed current rules and procedures related to conventional on-site systems, septic tanks, and disposal fields. He presented information on the proper function of a septic tank and covered many "do's and don'ts" for a healthy septic system.

**George Davis**, Subdivision Planner with the Baldwin County Planning Department, related wastewater management to the new subdivision regulations recently approved in Baldwin County.

**Lesley Garner**, Director of the Alabama On-Site Wastewater Training Center at the University of West Alabama, presented future opportunities of continuing education at the University in Livingston.

An afternoon field trip led by Dr. White included several sites demonstrating raised mound, constructed wetland, and peat biofilter systems in the Weeks Bay area.

For more information on alternative wastewater treatment systems, contact the Reserve at 928-9792. A free brochure on alternative systems will be available later this fall.

## RESEARCH

### New Research Coordinator Joins Reserve Team



Scott Phipps

Though it's a new position, it's not an unfamiliar face. **Scott Phipps**, the new Research Coordinator at the Reserve, has been a friendly face around the area for the last two years. Scott, a PhD student from Mississippi State University, worked at the Reserve until June on a research fellowship

through the National Oceanic and Atmospheric Administration (NOAA) before accepting his new position as Research Coordinator. While a fellow, Phipps was involved in the Reserve's System-Wide Monitoring Program or SWMP that monitors water quality in Weeks Bay and surrounding waters.

Since the position is a new one for the Reserve, Scott is excited by the opportunity to explore all of its possibilities. He will begin collecting long-term data to determine how it eventually impacts the reserve system. This data will also make it possible to document trends and build models for how an estuary should work. Phipps will also continue to be involved in collecting and cataloging long-term data for SWMP. His future plans include updating and editing the Reserve's site profile, a scientific profile of the Reserve itself.

His communication responsibilities include serving as liaison to other scientists conducting research at the Reserve and attracting scientists to conduct research here. He will coordinate equipment, volunteers and other resources for their projects.

In his spare time he hopes to conduct research close to his heart - that involving "diatoms," single-celled, microscopic, brown or golden colored algae. Scott is proud to have worked with **Dr. Mike Sullivan**, one of the leading diatom researchers in the country working at Mississippi State.

When not conducting research, Scott enjoys spending time with his wife Marla. The couple share a home in Robertsdale with their four show dogs, all German Short Hair Pointers.

### Freshwater Turtle Biodiversity in the Weeks Bay Watershed

*Krista Van Amerongon*

*Master's Student - USA and National Estuarine  
Research Reserve Graduate Fellow*

Under the direction of her major professor **Dr. David Nelson**, Kristi is studying the biodiversity of the freshwater turtle community in the Weeks Bay Watershed. The project began May 8, 1999 and will continue through June of 2000. May through September and March through June are active trapping seasons, while the winter will be used to

organize and analyze data.



*Krista Van Amerongon with  
research subject*

There are eight trap sites scattered between the Magnolia River, the Fish River and the Weeks Bay proper. Each trap consists of a 40-foot lead net with a 15-foot hoop net on each end for a total trap length of 70 feet. Each hoop net consists of 7

steel hoops that are 3.5 feet in diameter. There are two funnels set within the hoops that trap animals in the end. Floats are placed inside each hoop net to allow turtles to come to the surface.

So far, eight different species of turtles have been caught: river cooters, Florida cooters, red-eared pond sliders, chicken turtles, common snapping turtles, alligator snapping turtles, Gulf Coast smooth softshell turtles, and the endangered Alabama redbellied turtle. Over 600 turtles have been marked in 15 weeks of trapping. Additionally, approximately 50 turtles have been recaptured after initial capture where they were caught, marked and released.

A few interesting things have turned up in the nets: alligators, a 5-foot 5-inch alligator gar, a juvenile bull shark, spade fish, sheepshead and an assortment of sporting fish. One of the highlights of the summer was the recent hatching of a nest that contained Alabama redbellied turtles. The nest was discovered by **Walter Mixon**, who reported it after reading about Krista's project in a local newspaper. The nest was marked and observed for the requisite 60 days. Krista and Walter were fortunate to be present when the hatchlings emerged.

## Investigating Raccoon Rabies in Mobile and Baldwin Counties

**Lorinda L. Sheeler-Gordon** is a PhD student from Texas Tech University Institute of Environmental and Human Health. The Weeks Bay Reserve provided housing for Lori during her research in Alabama as well as contacts and collection sites in a cooperative effort with the Baldwin County Public Health Department.

The raccoon, *Procyon lotor*, is considered a major wildlife reservoir of rabies in the southeastern United States and is currently spreading its distribution as a vector of rabies. In the United States, raccoon rabies appeared in Florida in the 1950s and spread to the



Lorinda L. Sheeler-Gordon

surrounding states (South Carolina, Georgia and eastern Alabama) over the next 20 years. In the late 1970s, rabid raccoons were translocated from Florida and released in Virginia initiating the outbreak of the Mid-Atlantic states. Today, the rabies epizootic has a continuous distribution from Maine to Florida, east of the Appalachian Mountains. Due to the common occurrence of the raccoon, the rabies epizootic has the potential to spread throughout the United States.

Raccoons have been found during the day in residential areas or found fighting with pet animals, resulting in increased human exposure. Consequently, every year (although the exact number is unknown) an estimated 20,000 people receive postexposure treatment for contact with wild animals. The expense of postexposure prophylaxis exceeds \$1,000 per person, costing the public millions of dollars each year. Investigating disease spread and control strategies of rabies could lead to methods minimizing the number of human exposures and reducing the expense of postexposure treatment.

The selected study area in Alabama (Mobile and Baldwin counties) is on the edge of the current raccoon rabies epizootic, where the disease is believed to be spreading its distribution to the west. With support from the Mobile County and Baldwin County Health Departments and The Centers for Disease Control and Prevention, a three-month field survey was completed in late August 1999. Raccoons were live trapped at various sites throughout both counties. The

animals were sedated, physically examined, and ear tagged. Cerebrospinal fluid, saliva, and blood samples were collected; then the animals were vaccinated and released. The health status of each collected animal is established by the presence or absence of rabies antibodies and virus in the samples.

The field survey is a portion of the overall research project. The objective is to develop an epidemic model of raccoon rabies using the Geographic Information System to simulate the spread of the disease. The model will evaluate the placement of rabies oral vaccine to impede further spread of disease, as well as calculate the speed of disease spread. The resulting model should help us to achieve greater insight into the role of the raccoon in the epidemiology of rabies.

## Nature's Calendar

Raccoons (*Procyon lotor*) are abundant and widespread in Alabama. The heavily wooded areas around Weeks Bay are both ample and secluded and are capable of supporting a large population of raccoons. Raccoons are the most abundant predators in the coastal marshes, where they also feed along exposed mud flats during periods of low tide. Their dens are often in hollows of trees 30 or 40 feet above the ground. Several raccoons, probably members of the same family, may occupy the same cavity. At night such groups usually hunt for food together.

Raccoons produce only one litter a year. Males sometimes travel miles in search of mates. A female accepts only one male per season and is usually lethargic during pregnancy.

Litter size varies from one to seven and averages four or five. The babies at birth weigh between two and three ounces and are blind. Their eyes do not open until they are nearly two weeks old, sometimes several days older. Almost from birth they show the characteristic black facial mask that is typical of the species.

The young clamber about the den mouth at seven or eight weeks and are weaned by late summer. At first, the mother carries them about by the napes of their necks, but soon leads them on cautious foraging expeditions, boosting them up trees if threatened but attacking if cornered. Some young disperse in autumn. Others may remain longer, but are driven away by the female before she bears her next litter, as den space is limited. Raccoons can live up to 13 years.



Raccoon  
*Procyon lotor*

## Lovebugs

Lovebugs (*Plecia nearctica*) are small black flies with red thoraxes. Males are 1/4 inch, and females are 1/3 inch in length. They are members of the family Bibionidae. These lovable little flies are actually invaders from Central America and have been working their way eastward and northward along the coast. They have been spotted as far north as Wilmington, North Carolina.

Two flights of lovebugs occur in south Alabama each year - the spring flight during late April and May and a second swarm during late August and September. Flights extend over periods of four to five weeks. A noteworthy feature of the lovebugs is their ability to combine copulation and locomotion in a way that most insects would never be able to pull off. Mating takes place almost immediately after emergence

of the females. Adult females live only two or three days.

Female lovebugs lay from 100 to 350 eggs which are deposited beneath decaying vegetation. Larvae (immature stage) feed on decaying plant material and live on the soil surface



Lovebugs  
(*Plecia nearctica*)

just beneath the decaying organic matter. Larvae perform a beneficial function by converting the plant material into organic components which can again be used by the growing plants. After larvae mature, they transform into pupae. The pupal stage requires about seven to ten days.

Adults do not sting or bite. They feed on nectar of various plants, especially sweet clover and goldenrod. Usually, lovebug flights are restricted to daylight hours and temperatures above 68 degrees Fahrenheit. At night they rest in low growing vegetation.

Larvae occur in extremely high numbers in pasture-type communities, and due to their congregating behavior make ideal situations for certain bird predators. The University of Florida, Institute of Food and Agricultural Sciences, examined the contents of the gizzards of America Robins and found an average of 110.8 lovebug larvae per bird.

The white-topped pitcher plants along the **Kurt G. Wintermeyer Boardwalk** have a curious pattern of two crops of pitchers a year. The spring and fall pitchers are perfectly timed to capture insects, including swarms of lovebugs.

## Heritage At Risk

More than 4,000 scientists from 100 countries attended the XVI International Botanical Congress in St. Louis, Missouri from August 1 - 7, 1999. The purpose was to discuss the latest research on plants for human survival and improved quality of life. Among the findings were:

- Close to 50 percent of the land surface of the planet has been transformed by humans, such as filling in wetlands, converting tall grass prairies into cornfields, or converting forests into urban areas.
- Rates of extinction are 100 to 1000 times what they would be without human-induced changes in the planet. On land, this is largely caused by habitat loss and species invasions that are crowding out native species. In water, this is caused by overfishing as well.
- The year 1998 was Earth's hottest on record, as human activities continue to increase the concentrations of carbon dioxide and other heat-trapping gases in the atmosphere.
- Humans have more than doubled the amount of available nitrogen in the environment because of excess fertilizer use and burning of fossil fuel.
- There are now some 50 "dead zones" in the world's coastal areas. The largest in the Western Hemisphere is in the Gulf of Mexico (7,000 square miles), caused by excess nitrogen and phosphorus flowing down the Mississippi River.
- Half of the mangrove forests, which serve as estuaries in the tropics, have been lost to a combination of coastal development and conversion to aquaculture.
- Global aquaculture now accounts for more than one-quarter of all fish consumed by humans. In the case of shrimp and salmon—the fastest growing segment of aquaculture—two to three pounds of fish are needed to grow one pound of the raised seafood. Thus this practice is depleting the oceans of food for wild fish, birds, and marine mammals.

According to **Dr. Jane Lubchenco** of Oregon State University, as of July 17, 1999, there are reportedly six billion people on Earth, a doubling in less than 40 years. "As inhabitants of Earth, we need to take stock of these massive changes, understand their implications, and change our direction," Lubchenco said. "We are currently inattentive stewards. It is in our best interests to be more fully engaged in ensuring our own health, prosperity and well-being." The International Botanical Congress is held only once every six years.

# The Living Estuary

by John Borom

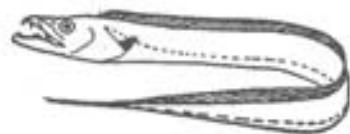


Osprey  
*Pandion haliaetus*

As light breaks over the bay, the nutrient rich rippling waters are full of life. Bacteria, the organisms responsible for much of the metabolism in food webs are everywhere. Planktonic organisms drift as the tide moves. Microscopic algae, diatoms and dinoflagellates carry out photosynthesis, and microscopic animals as well as larval stages of larger animals are abundant. Gulf menhaden flash as they filter plankton and scatter as Brown Pelicans dive and feed. An Atlantic loggerhead sea turtle swims just below the surface, and stone crabs and striped hermit crabs walk along the bottom. Clapper Rails search for wharf crabs and fiddler crabs in the marshes. Rough silversides hovering at the surface scatter abruptly on the approach of hungry spotted sea trout and voracious ladyfish.



Sand Seatrout  
*Cynoscion arenarius*



Atlantic Cutlassfish  
*Trichiurus lepturus*

As the sun rises, Great Egrets, Tricolored Herons and Great Blue Herons stalk longnose killifish and young white mullet in tidal creeks. Bay anchovies strain plankton, and scatter as fast moving bluefish and streamlined Spanish mackerel and Atlantic leatherjackets attack. Laughing Gulls, Royal Terns, Forsters Terns and Least Terns follow shrimp boats. Atlantic cutlassfish flash their slender, compressed bodies as they prowl soft mud bottoms in search of juvenile spot and banded drum. The soft sediment is full of worms, mud shrimp, brittle stars and mud crabs. Atlantic bottle-nosed dolphins whistle as they focus their sonar on a school of white shrimp. Snowy Egrets and White Ibises watch for mosquito fish and sailfin mollies in tidal creeks.

At noon, Atlantic tripletails wait for scaled sardines in the shade of channel markers. Gull-billed Terns and Ring-billed Gulls dive and feed on striped anchovies. Drifting cabbagehead jellyfish feed on plankton as juvenile planehead filefish and harvestfish hitch rides and gain sanctuary. Male sea catfish brooding mouthfuls of eggs swim slowly along the bottom. Cownose rays crush oyster shells as Gulf toadfish, naked gobies and skilletfish flee. Fish Crows look for common marsh hoppers under plant debris along the beach. Skipjack herring leap from the water as they pursue threadfin shad, and sheepshead bite acorn barnacles off of pilings as olive nerites graze algae.



Atlantic Leatherjacket  
*Oligoplites saurus*

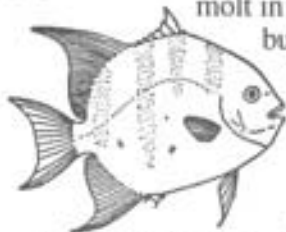


Mississippi  
Diamondback Terrapin  
*Malaclemys terrapin pileata*

In the afternoon, the piercing eyes of a Bald Eagle watch a school of gizzard shad as an Osprey plunges into the water and flies off with a red drum. Striped mullet panic and jump as crevalle jacks attack. Long-jawed, ferocious Atlantic needlefish prowl the surface looking for tidewater silversides as spooked halfbeaks leap from the water. Bay whiffs, hogchokers, speckled worm eels, rangia clams and stout razor clams bury in sandbars. Little Blue Herons and Glossy Ibises search for crawfish and insects in the marsh. Largemouth bass wait for bluegills and redear sunfish in tape grass beds. Yellow bass chase golden shiners and weed shiners, as redspotted and bluespotted sunfish feed on scuds.

As the sun sets, the low-pitched nasal "barks" of Black Skimmers can be heard as they fly low and cut the surface with their lower mandibles. Atlantic stingrays give birth to their young on sandbars, as alligator gars roll on the surface. Moon jellyfish and sea nettles swim slowly near the surface and feed on plankton, and sand sea trout and southern kingfish search the bay bottoms for juvenile Atlantic croakers and brown shrimp. Bighead sea robins feel for worms in the sand, and juvenile pinfish, pigfish, chain pipefish and gray snappers hide in wigeon grass.

In the moonlight, Yellow-crowned Night Herons stalk purple marsh crabs. A bull shark quietly births her pups in a channel, and a Mississippi diamondbacked terrapin digs a nest for her eggs on an isolated shore. Blue crabs molt in the grassbeds close to shore, and southern flounders, American eels and southern stargazers bury in sandbars and wait for Gulf killifish and grass shrimp. Night sounds include banjo like "plunks" of bronze frogs, "pig-like grunts" of pig frogs and the far carrying "brr-ummmm" and "jug-o-rum" of bullfrogs. The birds rest and wait for daylight.



Atlantic Spadefish  
*Chaetodipterus faber*

There are well over 1,600 species of invertebrate and vertebrate animals in the Mobile Bay estuary, along with hundreds of plant species. In terms of biodiversity, it is one of the richest habitats in the world.



Bronze Frog  
*Rana clamitans clamitans*

## NEWS BRIEFS

### Distance Learning Grant Announced

The U.S. Department of Agriculture Cooperative State Research, Education and Extension Service awarded Auburn University and Faulkner State Community College \$674,829 for the establishment of an estuarine environmental education/research program over a three-year period.

The grant will fund a videoconferencing network that will connect Weeks Bay Reserve with Auburn University, Auburn Marine Extension and Research Center in Mobile, Faulkner State's Campuses in Bay Minette, Fairhope and Gulf Shores, and six high schools in Baldwin County. This exciting "distance learning" project will enable Faulkner State and the Reserve to put estuarine research into secondary and college classrooms.

### Pollution Rankings

The 1996 Environmental Protection Agency Toxic Release Inventory lists Alabama as the sixth most polluted state and Mobile County as the eighth most polluted county in America. Escambia County Florida is listed number 11.

The 1998 EPA Toxic Release Inventory lists Alabama as the tenth most polluted state and Mobile County is listed number 15. Escambia County Florida is listed as the sixth most polluted county in America.

Some sources of toxic chemicals in rivers and estuaries include paints and surface coatings used in the shipbuilding industry, industrial discharges, municipal sewage treatment facilities, stormwater runoff, exhaust from car and boat motors, landfill seepage, atmospheric deposition and illegal garbage disposal.

The 1999 Gold and Green Report, a publication of the Institute of Southern Studies in Durham, North Carolina, ranked the economic and environmental health of all 50 states, using 20 indicators for each category. Nine of the states in the top 12 on the environmental scale also ranked in the top 12 on the economic scale. Conversely, 12 states ranked among the 14 worst in both environmental and economic accountings. Alabama was in this group. The report concludes that the states that do the most to protect their natural resources also wind up with the strongest economies and the best jobs for their citizens.

### Coastal Cleanup

Forty-four volunteers collected 1,208 pounds of trash around Weeks Bay on Saturday, Sept. 18.

Repeat organizations included **Boy Scout Troop 406** from Montgomery (fifth straight year), **Shell Chemical** from Saraland, and of course, many of the Reserve's wonderful volunteers who participate every year. There were many new faces and families, and we are very grateful for the growing efforts.

Lunch was provided by the **Weeks Bay Reserve Foundation** and served at the Interpretive Center for the volunteers. A special "Thank You" to **Addie and Dick Ingram** and **Maxine and Archie Miraldes**, who prepared and cooked the lunch.

Collected debris included an old rusted motorcycle frame and a 55-gallon drum containing about 5 gallons of fluid. The drum label was barely legible, yet read "Inhibited Transformer Oil," which can be very dangerous and is considered a hazardous waste. It was reported to the Alabama Department of Environmental Management.

Weeks Bay seemed cleaner in most areas than in years past. However, there is still an abundance of plastic drink bottles, plastic ice bags, and cigarette butts. Please keep a bag for trash on your boat and in your car to make next year even cleaner!

#### DID YOU KNOW?

Meeting a torpedo ray (family *Torpedinidae*) can be a shocking experience. These rays have electric organs on either side of their heads. Electricity is produced by modified muscle cells. These special flattened cells, called electrocytes, cannot contract but can discharge a small amount of current when they are excited by nerves. Electrocytes are stacked in columns, and the charge from each one is coordinated to add to a large single burst of electricity at once. This burst is used for close range hunting and for defense by the ray.

People have experimented with this type of natural electricity. Ancient Romans believed that a headache could be treated by placing a live black torpedo ray on the spot which was in pain, until the pain ceased. Gout was also treated by placing a torpedo ray under wet feet until the legs were numb to the knee.



Lesser Electric Ray  
(*Narcine brasiliensis*)

## Calendar

### November

- 9 Meeting, Citizens Advisory Committee of the Weeks Bay Watershed Project, 7 p.m.  
10 Master Environmental Educators Program, 11 a.m. - 1 p.m.  
11 Closed Thursday. The Interpretive Center will be closed for the Veterans Day holiday.  
20 Guest Lecture Series. Saturday, 10 a.m. Tony Fisher of the University of South Alabama will present the findings from current research about the important impact and effect of sedimentation on Weeks Bay. Also, Mr. Fisher will show how new geographic technologies assist researchers in studying and interpreting such impacts.  
25 Closed Thursday. The Interpretive Center will be closed for the Thanksgiving Day holiday.

### December

- 8 Meeting, Weeks Bay Watershed Project, Technical Advisory Committee, 10 a.m.  
Master Environmental Educators Program, 11 a.m. - 1 p.m.  
9 Meeting, Weeks Bay Reserve Advisory Committee, 1 p.m.  
14 Meeting, Citizens Advisory Committee of the Weeks Bay Watershed Project, 7 p.m.  
24 Closed Friday. The Interpretive Center will be closed for the Christmas Day holiday.  
31 Closed Friday. The Interpretive Center will be closed for the New Years Day holiday.

### Year-end Charitable Giving

In considering your year-end charitable giving and tax planning, remember the Weeks Bay Reserve Foundation. As a non-profit 501(c)3 organization, the Foundation accepts tax-deductible donations. In addition to membership dues and cash gifts, possible donations range from stocks and bonds to land, equipment, exhibit items or even donated professional services.

Contact the Foundation office or your CPA for additional information on how to make your wise market investment a great gift to the Weeks Bay Reserve Foundation. By donating the financial instrument, you may avoid long-term capital gains tax and deduct the full market value on your federal return. Your participation will make a difference for future generations. We appreciate your on-going support and special consideration at year-end.

## THE WEEKS BAY RESERVE FOUNDATION THANKS OUR NEW AND RENEWING MEMBERS

July - October 1999

Alabama Power Company

Jane Allgood

Marion Barrett

Verona Beiser

Joan Betancourt

Ken Bethea

Roberta Billie

Dorothy B. Cain

Casi Callaway

Curt Chapman

Sue Crane

Community Bankers Assn. of Alabama

Dixie Oaks Convenience Store - Larry Wilson

Elaine Tonsmeire Drake

Ben Dykema

George Dyson, Jr.

Thomas & Judith Ellis

Alida Given

Win Hallett

Elaine Hanson

Dr. Douglas Haywick

Kathy Hicks

Delauris Hopper

Sandra Wolf Houston

Mrs. Z.M.P. Inge

Dr. Bobby & Lois Irby

Doc & Rosemary Jenison

Skip & Nancy Jones

Jubilee Landscape, Inc./ Tynes Stringfellow

Jerry & Joyce Lanning

John Kempton

Dr. Ken Marion

Stillman & Mary Knight

Michael & Elizabeth Langston

Ellen Ludlow

Malbis Memorial Foundation

Mac & Libby McCawley

Jessica McCawley

Archie & Maxine Miraldes

Dr. Alan, Alison & Ross Moore

Karen McGuire Moore

Mary Murchison

Patmarie Nedelka

Carol Orlik

Annie Laurie Palmer

George & Abigail Panayiotou

Marion Quina, Jr.

Mary Riis

James T. Robson

Robert Ryan

Diane Scanlan

Dr. & Mrs. John F. Shriner

Maud Skiba

Dr. Len Strickland

Hector & Martha Sutherland

Donald Taebel

Douglas & Mary Taylor

Mac & Michelle Tonsmeire

David & Suzanne Trice

Genevieve Turner

Roy Turner

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Suggestions and comments from readers on future topics of interest are welcome. If you know of others who would be interested in receiving this newsletter, call the Foundation at 990-5004. *The Pelican Post* is produced quarterly by PRADCOM, Inc. of Fairhope, AL, Karen McGuire Moore, President. Funds for publication are provided by members of the Weeks Bay Reserve Foundation.

## 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.

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