

# The Pelican Post

Weeks Bay Reserve Foundation  
Newsletter  
Summer 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.

## Foundation Membership Meeting Set for Oct. 11

The Weeks Bay Reserve Foundation will hold its annual membership meeting on Saturday, Oct. 11 in conjunction with the grand opening of the new Research and Education Building and the new Kurt G. Wintermeyer Nature Trail.

Special events planned for the entire family include a picnic, tours, and activities highlighting Native American culture.

"We hope all the members of the Foundation and our many volunteers and donors as well as the general public will come out and join us," said L. G. Adams, Reserve Manager. "We want to make this a fun day for everyone. Plan now to attend and bring your family, neighbors and friends."

According to Adams, "the Reserve is growing and changing by leaps and bounds. If you have not been out to see all that is happening at the Reserve, the annual membership meeting and picnic will be a perfect opportunity to see all the progress."

Your participation at the annual meeting will help direct the future of the Foundation. Mark your calendar now and plan to attend this important meeting. Watch for further announcements this fall or call the Reserve at 928-9792 for details.

## New Research and Education Building Construction Begins

The new multi-purpose Research and Education Building is well underway. The two-story building, located adjacent to the Interpretive Center, will provide an educational auditorium, research offices and sleeping quarters for visiting scientists.



Construction on the new Research and Education Building is well underway.

Workshops, public meetings and educational groups will utilize the downstairs auditorium. With room to seat 70 - 80 people, this large area has been needed as the Reserve's programs have developed and grown out of the present classroom. The research office space upstairs will house data management equipment for water monitoring programs, including map systems, work stations and a small research library, as well as a bunk room for researchers and students and quarters for professors and interns.

An alternative design for sewage treatment is underway for approval by the Baldwin County Public Health Department. A constructed wetland design, it is especially useful in areas with a high water table and will provide the on-site disposal system for the building. The sewage treatment system will also function as a demonstration site at the Reserve for workshops and educational programs which focus on the quality of ground water and development issues.

Construction has also begun on the Kurt G. Wintermeyer Boardwalk Nature Trail at the carnivorous plant bog. Both of these new additions to the Reserve will be ready for dedication on Oct. 11.

## Weeks Bay Monitoring Program Receives State Award

Alabama Water Watch honored the Weeks Bay Water Watch citizen water quality monitors with a certificate for the most data forms between June 1996 and June 1997. Nearly 300 data forms were collected by Reserve volunteers.

The program has entered its third year of monitoring water quality in the Weeks Bay Watershed. Weeks Bay Water Watch is a local chapter of the Alabama Water Watch organization, which trains and supports a statewide citizen monitoring initiative. More than 2,000 volunteers in 50 organizations have been trained by Alabama Water Watch.

Currently, 30 sites in the Weeks Bay Watershed are monitored by citizen volunteers. The monitors have attended a six-hour basic certification workshop for training in the program's goals and the use of a specially designed water test kit.

After completing a workshop, volunteers can begin testing water at any bay site they choose. Selected sites are convenient, safe, and physically and legally accessible. Collected data includes temperature, dissolved oxygen, total alkalinity, hardness, pH, turbidity, nitrates, phosphates, and *E. coli* monitored.

The purpose of the Weeks Bay Water Watch program is to gather trend data that will aid scientists in understanding if water quality is improving or degrading in the Watershed. The data may also indicate sources of pollution and or particular "hot spots" in the Watershed. Data is also used to direct funding and other programs that will assist land-owners with water quality improvement projects.

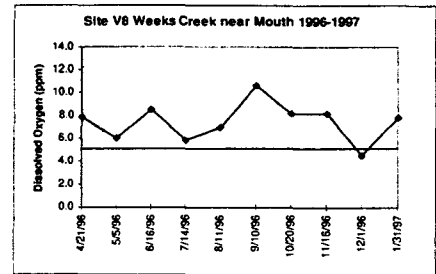
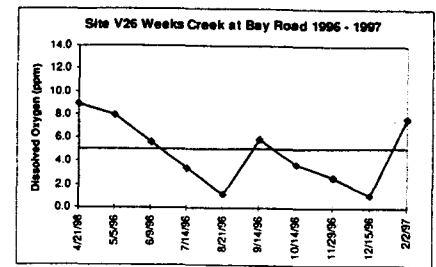
The statewide Alabama Water Watch program is dedicated to helping interested groups become more aware of their aquatic resources. By participating in the program, volunteers can help collect valuable water quality information. In addition, the knowledge and experience they gain will be a major factor leading to better water quality and better water quality policy in Alabama.

The next Alabama Water Watch basic certification workshop will be Sept. 13 at the Reserve from 9 a.m. until 3 p.m. It is open to anyone interested in monitoring water quality in coastal Alabama. For more information, call the Reserve at 928-9792.

*The following graphs show dissolved oxygen data collected from April 1996 to February 1997 for two sites on Weeks Creek, a tributary of Magnolia River. The upstream site, V26, shows a decline in dissolved oxygen below 5 ppm, the*

*State recommended limit for this creek. These low values may be attributed to the agricultural activities that dominate the Watershed and the impoundment of the creek further downstream, which inhibits flow, causing the water to be stagnant during periods of dry weather.*

*The low levels of dissolved oxygen have not been observed in the downstream portion, V8, of the creek. This is probably due in part to the tidal influence at this site.*



## River Cleanup Effort Held May 17

The Weeks Bay Reserve participated in its first National River Cleanup effort on May 17. The event was organized by the Weeks Bay Watershed Citizens Advisory Committee.

Despite marginal weather, over 1,200 pounds of debris was collected from the Fish and Magnolia Rivers. Volunteers included the Boy Scouts, Marlow/Fish River Community Organization, and the US Marine Corps Reserve from Mobile.

Items pulled from the rivers included a sunken boat and numerous tires. A unique find was a skeleton of an adult alligator with an estimated length of 12-14 feet. The skull is now on exhibit at the Reserve.

A hearty THANK YOU to all who volunteered their time and effort!

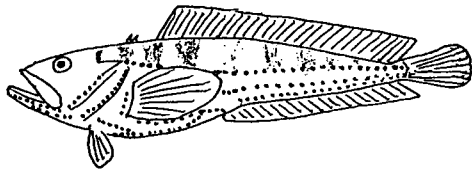


*On June 24-27, the Reserve hosted the fourth annual Non-point Source Pollution Workshop for Educators, funded in part by an EPA grant and with a focus on solutions to non-point source pollution. (L-r) Tina Lynn, Alabama Water Watch instructor, certifies workshop participants Larry Quinn and Brenda Rogers.*

## Atlantic Midshipman

The Atlantic midshipman (*Porichthys porosissimus*) is a broad-headed, big-mouthed, lightly built, bottom dwelling toadfish that reaches about eight inches in length. The dorsal side is grayish-olive, the sides are light tan to golden with saddle like brown blotches, and the ventral side is shiny. The common name is derived from the neat rows of golden photophores, or small light-bearing spots arranged in linear patterns on the head and body. They resemble the buttons on a nineteenth-century naval midshipman's uniform.

Midshipmen are the only North American shallow-water fishes which possess photophores. Bioluminescence and photophore pattern have value to fishes for species recognition, in attracting food or as a means of defense. They are known to display the golden light from photophores during courtship. They also possess a sharp venom spine on the sides of the head and are known to flash lights upon approach of predators thus warning them to stay away. The venom has no serious affect on large organisms like humans.



Atlantic Midshipman  
*Porichthys porosissimus*

These fish make a curious sound when captured. Grunting noises are produced by special muscles lying in the walls of the swimbladder itself, which, when they contract, throw the walls into rapid vibrations resulting in audible low frequency signals. Among the sounds made are the boat whistle, grunts and growls. Males seem to make most of the noise probably to attract a female, induce egg laying and to defend its territory. These sounds have earned for them in some localities the name "singing fish".

They seem to prefer mud bottoms and commonly appear as part of the bycatch in shrimp trawls.

## Ruby-Throated Hummingbird

The tiny Ruby-throated Hummingbird (*Archilachus colbris*) the smallest of our birds, is three and one half inches long and weighs one tenth of an ounce. The adult male is strikingly beautiful. It is entirely iridescent

emerald-green above and whitish below with dusky flanks and sides. The dark forked tail is green in the center and blackish on the sides. The chin is black, and the throat is brilliant ruby-red. Bright light on its feathers produces a brilliant bronze-green metallic sheen, and it looks like a jewel flashing in the sun. In shadows, without this effect, its plumage looks quite dull, and the throat may appear black.

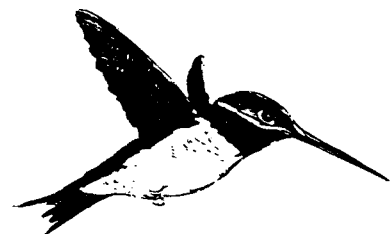
The female's throat is whitish, the underparts are grayish-white with buffy wash on the sides, and the tail feathers are more rounded and are tipped with white. As in the male, the female is entirely iridescent emerald green above.

A hummingbird's wing is ridged with little of the wrist and elbow flex of other birds. The entire wing is swiveled back and forth from the shoulder as a fixed blade. As with the rotorblade of a helicopter, it produces the birds unique flight. The ability to fly backwards and upside down and to hover is very unusual. The agility in flight lets it flit from flower to flower like a bee, and as it moves about, the wings beat so rapidly that they give off a buzzing or humming sound.

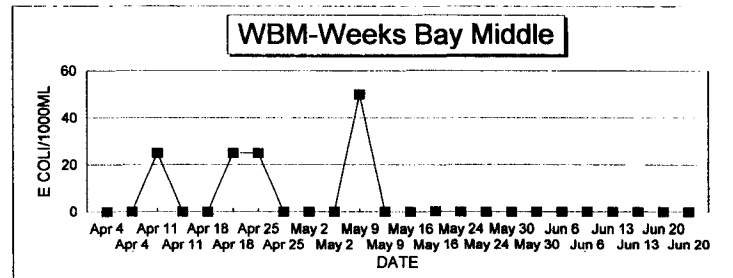
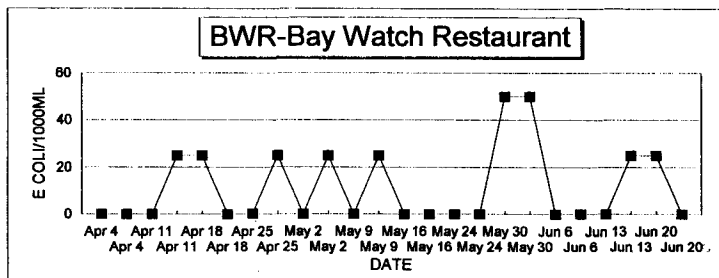
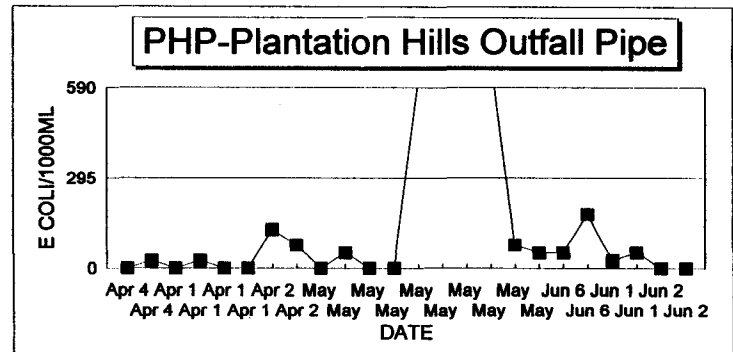
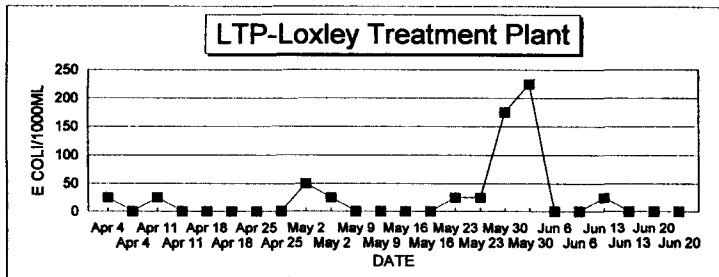
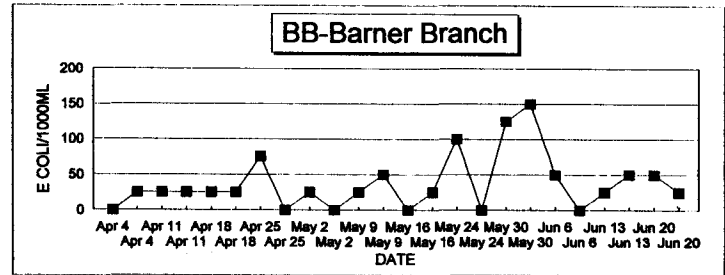
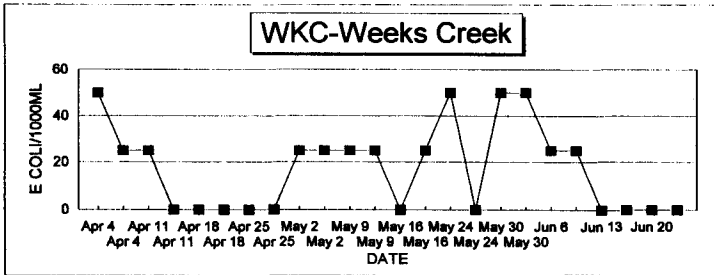
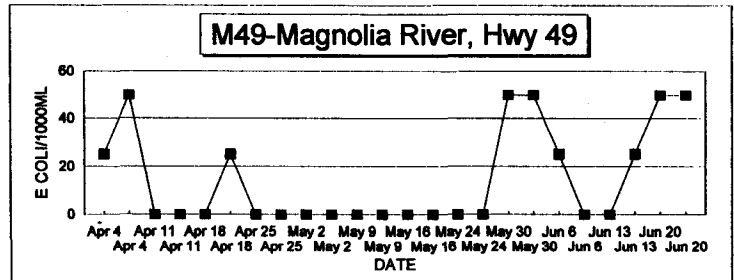
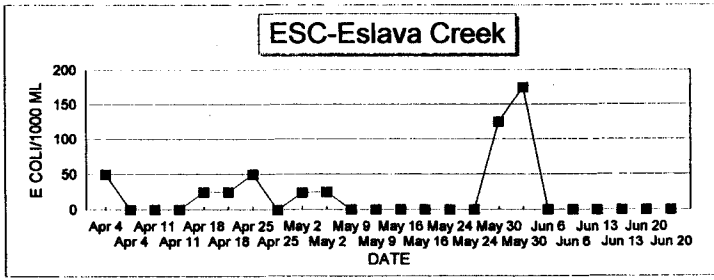
At least 31 different plants have flowers which attract this bird. These include red buckeye, cardinal flower, bottlebrush, salvia, butterfly weed, trumpet vine, mimosa and morning glory. Bright red, tubular flowers are favored.

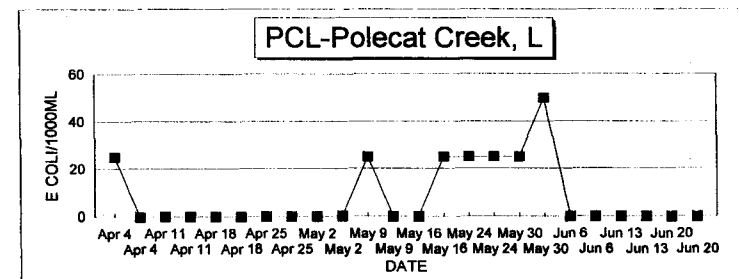
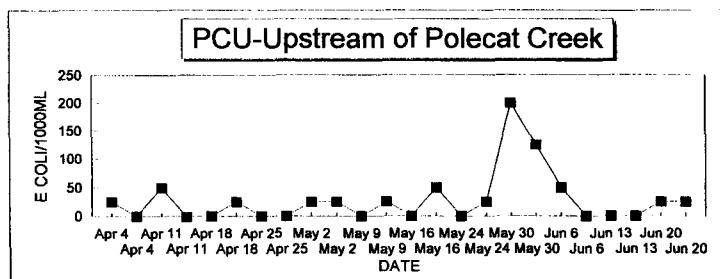
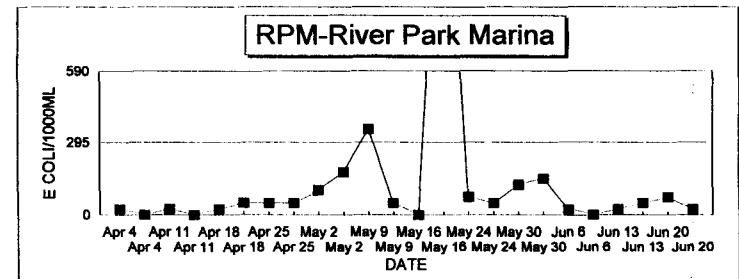
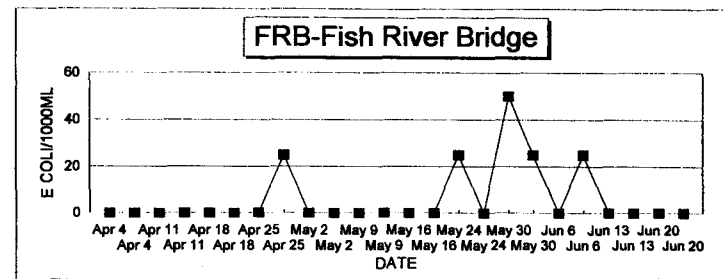
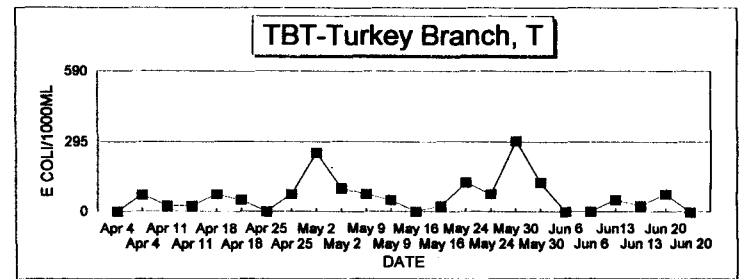
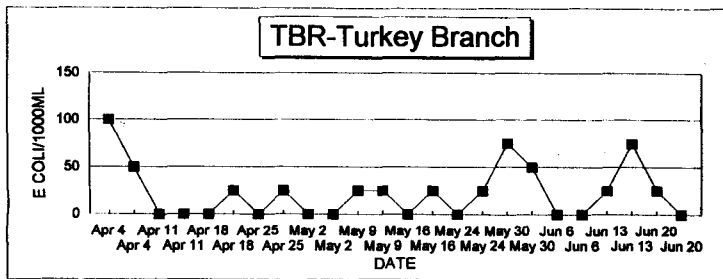
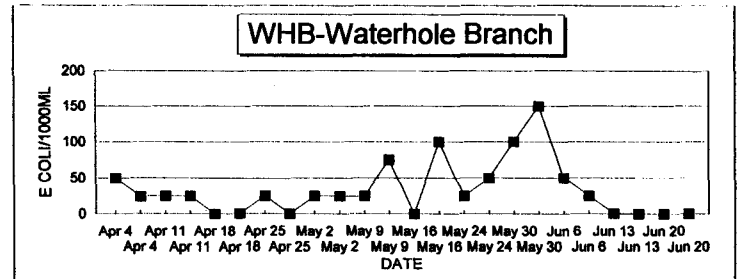
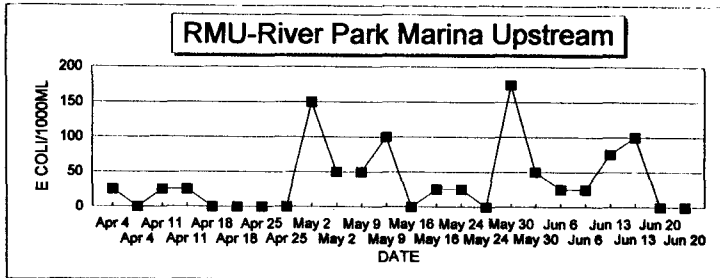
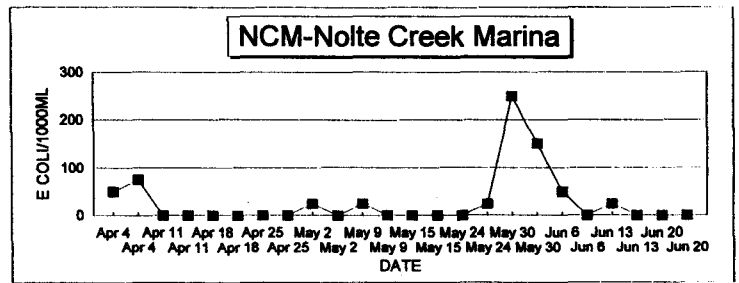
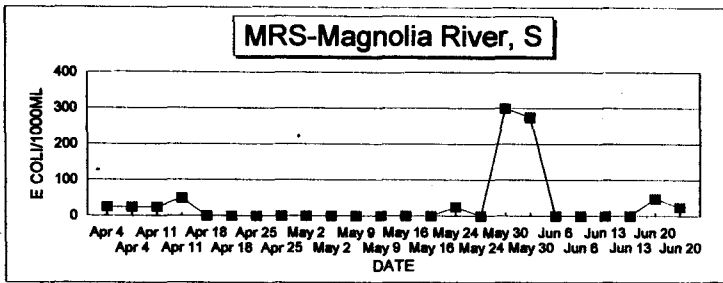
Hummingbirds feed on the nectar of flowers. They hover before the flower, insert their long bill and tongue and sip nectar from deep within. In the process, they help the plants reproduce by transferring pollen from flower to flower.

Although nectar is its main food, providing essential high energy sugars, it will also eat some small insects and spiders. They have been observed searching the bark of tree trunks and foliage, darting out to catch insects on the wing and flying back and forth through swarms of gnats. A hummingbird consumes an enormous amount of energy, and its body temperature is higher and its heartbeat is faster than those of any other bird. It must eat twice its body weight in food every day, and sometimes drinks so much nectar that it becomes stupefied and falls to the ground.



Ruby-throated Hummingbird (Male)  
*Archilachus colbris*





## Water Quality Standards

The mission of water quality protection is certainly critical and of the utmost importance in Baldwin County. This is due to the huge amount of water bodies and the risk created through continued, rampant growth.

To be effective in that mission, it is critical to identify what type of activity causes the greatest and most detrimental impact on the estuary. To do that, base line data are necessary to measure parameter levels. But what parameters are necessary to measure, pathological, bacteriological, suspended solids, Biological Oxygen Demand, etc.?

To "begin with the end in mind," what use of the water resource is most critical? Is it potable water, shellfish propagation and harvesting, recreation and fish/wildlife values, agriculture, or industrial use? What balance do we need between the various uses? Where is the greatest threat to the system? Is it point or non-point discharge that is most threatening? Is it surface or sub-surface run-off or both?

A reasonable initial starting point is fairly obvious: non-point runoff has got to be a major issue. Secondly, effects of dysfunctional septic tanks, treatment plants and agricultural run-off are very real and important issues.

Water quality standards are very complex and complicated. It is no wonder that state and federal regulators differ in their technical view of what water quality parameters are appropriate for regulations and legal restraints.

Recently the staff and supporters of the Reserve and Foundation met with ADEM representatives from Montgomery and Mobile to discuss fecal coliform, which is one of the water quality parameters.

Alabama regulations and laws are set up using fecal coliform as the standard for measurement, while the Foundation and other groups performing water quality sampling have been using *E. coli* as an indicator of environmental problems. EPA and the scientific community have suggested that *E. coli* might be a better standard. Should the Foundation and other environmental groups challenge the present system that is strongly entrenched and spend a lot of time and effort on an issue that may not be the most effective use of those resources? Or, should another issue be identified and pursued?

The Foundation will continue to work on these issues and will report results in the future. Any comments and suggestions are invited and would be appreciated.

## Nature's Calendar

Most Ruby-throated Hummingbirds spend the winter in Central America or the West Indies, and a few rarely winter on the northern Gulf Coast. It is the only hummingbird that breeds in eastern North America and is a common, breeding summer resident throughout Alabama.

The return from the tropics to its breeding grounds in North America is timed according to location. The hummingbirds that live in the southern part of the United States begin their northward migration as early as late February or early March. Those that live further north time their return to coincide with the flowering of their food plants.

Like many migrating birds, the male arrives in the breeding area before the female and establishes a territory. Early March sees the birds on the northern Gulf Coast; in May some are in central Canada.

When breeding starts, the male often sits on a twig with a commanding view. He may dart off to chase a kingbird or a crow or a rival male. When the female appears, the male makes a courtship gesture by flying back and forth in a perfect arc. During courtship, their wings beat up to 200 times per second, as opposed to its usual wing beat of 90 times per second. During courtship the female sits quietly on a perch.



*Hummingbird  
Nest*

The female makes a tiny, delicate nest of woven hair and plant down and heavily veneered with grayish-green lichen and moss fragments held in place by cobwebs or saliva. These amazing structures are about one inch across and are saddled on a thin, horizontal or down-sloping limb, often over water. The nest can hardly be detected unless the bird is seen coming to or departing from it.

The eggs, two in number, are cream-colored and only slightly larger than a navy bean. The female incubates the eggs for 16 days until they hatch, and then feeds the young by regurgitating nectar, and small insects and spiders. The male does not take part in the rearing of the young and may go off to find another mate. Young birds are fledged in three to four weeks, and some birds go on to raise a second brood.

Most birds remain on the Alabama coast until late October when they migrate south. Before migrating, each bird stores a layer of fat

equal to half its body weight. Despite the tiny size, some hummingbirds migrate more than 1,850 miles from the eastern United States, crossing 600 miles of the Gulf of Mexico to spend the winter in Central America or the West Indies.

### **Estuarine Queen Cleaned With Help Of Donations**

The Reserve's 32-foot pontoon boat, the *Estuarine Queen*, was lifted out of the water to have its hull cleaned and repainted this spring. After more than three years in the brackish waters of Weeks Bay and its tributaries, algae, barnacles and other growth had built up on the vessel. The cleaned *Estuarine Queen* is now ready for the fall activities.

The Reserve is very grateful to **Donald Annan** who cleaned and repainted the vessel and **John Houser** of **Blue Water Marine, Inc.** for donating most of the paint. Thank you for your gifts of time and materials.

### **Wetlands Workshop Great Success**

The critical role wetlands play in maintaining the economic and environmental health of the Mobile Bay estuary was the focus of a Wetlands Workshop sponsored jointly by the Baldwin County Wetlands Advance Identification Project, the Mobile Bay National Estuary Program, and the Weeks Bay Watershed Project. More than 90 participants from Mobile and Baldwin counties attended the one-day workshop hosted by Faulkner State Community College, Fairhope Campus, on July 24.

Speakers included **Dr. Judy Stout**, Dauphin Island Sea Lab; **Will Abberger**, Trust for Public Land; **Dr. Kevin White**, University of South Alabama; **Art Hosey**, US Army Corp of Engineers; **Jose Negron**, US Environmental Protection Agency; **Brad Gane**, Alabama Department of Environmental Management; **Larry Goldman**, US Fish and Wildlife Service; and others.

For more information, contact the Mobile Bay NEP office at 990-3565.

### **Did You Know?**

The Ruby-throated Hummingbird has the smallest number of feathers ever counted on any bird, 940 in June.

The Ruby-throated Hummingbird sometimes gets drunk on the nectar of the flowers of the Chinaberry tree (*Melis azedarach*).

## **Schedule of Events**

### **August**

- 4-8** Volunteer Training Program for new and present Volunteers. Update on Reserve programs and training in Reserve activities.
- 5** Weeks Bay Watershed Project Citizens Advisory Committee meeting, Interpretive Center, 6 p.m.
- 14** Weeks Bay Advisory Committee meeting, Interpretive Center 2 p.m.
- 16** Guest Lecture "Birds and How to Attract Them". Faulkner State Community, College Fairhope Campus, Centennial Hall, 9-11 a.m.

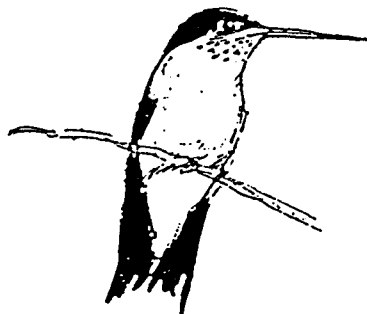
### **September**

- 2** Weeks Bay Watershed Project Citizens Advisory Committee meeting, Interpretive Center, 6 p.m.
- 8** Weeks Bay Watershed Project Steering Committee meeting, Interpretive Center, 1 p.m.
- 13** Alabama Water Watch Training - Certification and Recertification for volunteers
- 20** Annual National Coastal Cleanup Day 8 a.m. - 12:00 noon. Meet at Reserve to register and receive garbage bags, map, etc. Stay for free lunch.
- 27-** Fourth Annual Weeks Bay Volunteers
- 28** Native Plant Sale. Saturday and Sunday, 8 a.m. - 4 p.m.

### **October**

- 7** Weeks Bay Watershed Project Citizens Advisory Committee meeting, Interpretive Center, 6 p.m.
- 11** Weeks Bay Day, 9 a.m. - 4 p.m. Dedication of new Research and Education Building and new Kurt G. Wintermeyer Nature Trail. Weeks Bay Reserve Foundation Membership Meeting.
- 11** Sierra Club Annual Meeting, Camp Beckwith. Tour of Reserve.

**For more information, contact the Reserve at 928-9792.**



**Ruby-throated  
Hummingbird (Female)  
*Archilachus colbris***

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

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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:

### Weeks Bay Reserve Foundation

P.O. Box 731  
Fairhope, AL 36533

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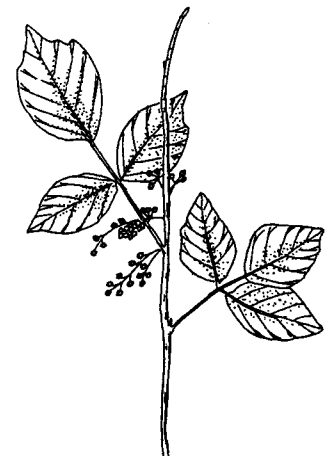
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### Things You Can Do To Protect Coastal Habitats

1. If you have a septic tank, make sure it is working properly.
2. Participate in waste reduction and recycling programs.
3. Stay informed on major developments and changes in your community that could affect the quality or quantity of freshwater reaching the estuary. Let responsible officials know how you feel about these issues.
4. Support environmental education, land preservation, and the improvement of water quality.



Poison Ivy  
*Toxicodendron radicans*