

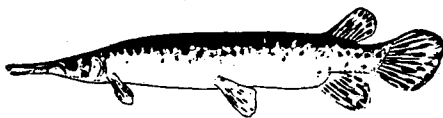
The Pelican Post

Weeks Bay Reserve Foundation
Newsletter
January 1995

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.

New Exhibits

The recently enclosed "back porch" of the Interpretive Center is nearing final stages as the new aquarium and terrarium room. It presently houses three freshwater and three saltwater tanks being prepared for species native to Weeks Bay such as: spotted gar, spotted sunfish, sailfin molly, diamond killifish and blue crab to name a few. Reptiles on display in the terraria include: Florida softshell turtle, Gulf Coast box turtle, banded watersnake, gray rat snake, rough green snake, Southern ringsnake and a black pine snake - Florida pine snake intergrade. One very interesting amphibian is a five inch long toad that has not yet been identified. It was first thought to be a Gulf Coast toad which would be a record for Alabama. However, after further inspection and a conversation between Dr. Robert Mount of Auburn University and Dr. Charles Tucker, the exact species is unknown. This handsome toad appears to be happy spending the winter eating crickets in the new aquarium and terrarium room. Come and see for yourself.



Spotted Gar
Lepisosteus oculatus

National Workshop Update

The National Estuarine Research Reserve System Workshop convened in Wilmington, North Carolina, October 14 - 21, and was hosted by the North Carolina Reserve. Representatives from the Weeks Bay Reserve were Brenda Spivey, L. G. Adams, and Bob McCormack.

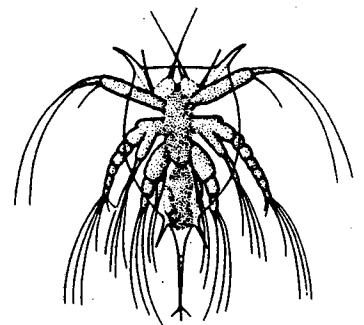
Management issues discussed included a 5-year review of the management plan for the Reserves, concerns and impacts

of the upcoming federal review and vote on the Endangered Species Act, expansion of the NERR System and federal money available for construction and acquisition. Weeks Bay will be awarded \$110,000 for creating interpretive signs, land acquisition and construction of a storage building. Greater communication between Reserves continues to grow.

Research topics discussed included greater sharing of data via electronic mail (E-mail), purchase and implementation of dataloggers for each Reserve and present focus on non-point source pollution, to name a few. Non-point source pollution is considered a high priority due to the ever increasing degradation of our nation's coastal wetlands, rivers and estuaries. Computerized dataloggers deployed in key area will assist researchers in monitoring parameters such as dissolved oxygen, salinity, pH, alkalinity, hardness, temperature and turbidity.

Education topics of discussion include Estuary-Net, GLOBE and informational "site swap" between Reserves. Estuary-Net is a computer program designed so that classrooms can input, view and compare recorded data from science projects and reserve research and allow transmission via computer modem to other Reserves and other schools. In other words, a local classroom could tap into the Weeks Bay Reserve and view data about the bay, or even look at data from another Reserve system and compare it to Weeks Bay. Students will learn similarities and differences among estuaries. GLOBE (Global Learning through Observation to Benefit the Environment) will be a workshop series for teachers on environmental issues such as global warming, habitat loss, non-point source pollution and other issues. The "site swap" helped to identify problems as well as successes at each Reserve. Sharing such information has increased efficiency in problem solving, and created great effectiveness in serving educational needs.

The Weeks Bay Reserve is looking forward to the future and being a center for state-of-the-art tools that will better educate our next generation to the needs and concerns of the planet on which we live.



Nauplius Larva of Barnacle

Educational Activities

The Interpretive Center has been bustling with activity during this fall season. Many school groups have been out to visit Weeks Bay and participate in the many different programs being offered. Classes have been scheduled both in the morning and afternoon to help accommodate the ever-increasing demand for educational activities.

Many groups have come out both from Mobile and Baldwin counties as well as public and private schools. The first school group to visit the Reserve this fall was the Homeschool under the supervision of Sharon Keeton. This group used the Reserve facilities twice a month for their biology laboratory activities. Bayside sixth graders had a boat trip observing various estuarine components in Weeks Bay and up Fish River. Organized by JoAnn Weller, this group spent a morning on the "floating classroom" (pontoon boat) as well as taking advantage of the exhibits and boardwalk. Sally Wilson scheduled her eighth graders to visit the Interpretive Center during her three-day stay at Beckwith Episcopal Camp and Conference Center. After an introductory activity, the group took an estuarine tour aboard the "floating classroom" up the Magnolia River seeing different marsh grasses, fish, shore birds and even an osprey.

Jennifer Russo arranged for all the third grade classes of the University Military School (UMS) in Mobile to visit during two days after Thanksgiving week. After having to cancel on Tuesday due to heavy rains, her group of 84 students spent the day viewing exhibits, walking on the boardwalk and learning the value of estuaries as important natural resources of coastal Alabama. The day was filled with discoveries (and kids!) with most students voicing their "favorite" experience was seeing the live alligators and snakes. Escambia schools sent a group of tenth grader under the supervision of Mr. Madelina. Among other various activities, the group explored the estuary by water aboard the "floating classroom". The students learned about emergent grasses, the nursery aspect of the estuary and water quality. Water quality data was collected from both the Fish and Magnolia River watersheds specifically from Waterhole and Eslava Branches. Upon leaving, this group was more aware of the varied habitats at Weeks Bay and their importance to our coastal area.

Baldwin County public schools have been well represented this school year. With over 1,000 students visiting this fall, many schools have brought entire grade levels to participate in various programs, view exhibits, seine fish and hike down the boardwalk. Bay Minette Elementary School sent third graders during October. Janice Simmons and Cheryl McKinley set the pace with classes coming prepared with a scavenger hunt and work sheets to test the senses. Students heard sea gulls, saw squirrels, smelled drying leaves and felt pine bark. Other teachers participating were JoAnn Williams, Tina Burt, Carolyn Milstid, Cathy Byrne, Kathleen Ryan and Erma Catrett. Both Daphne and Foley Intermediate Schools have visited represented by both third and fifth grade students. Teachers accompanying their students included Bellami Price, Kenny Altman, Tina Tuveson, Sharon Barnette, Julie Sturn and Margaret Waller. Mary Ann Underwood, science instructor at Foley High School, involved her biology students in investigative activities along

the ground trail, boardwalk and shore line. Bringing five groups over a two-week period in November, her classes made many observations to collectively evaluate back in the classroom. Spence Valine has been bringing his environmental science students from Gulf Shores Middle School. This group is in the fourth year of a continuous program collecting water quality data from Weeks Bay and surrounding waters. Having boat access, this group is part of the many innovative educational activities associated with Weeks Bay National Reserve.

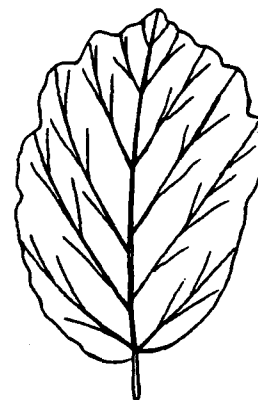
Witch-hazel

Witch-hazel (*Hamamelis virginiana*) occurs as an understory tree on moist sites along the boardwalk nature trail. It is a small tree with an irregular and somewhat flattened, spreading crown and reaches about 25 feet in height. The leaves are from three to five inches long, nearly as broad as long and bluntly pointed at the tips. The sides are unequal in size and shape, and the edges are roughly scalloped. The upper surfaces are dark green, and the lower surfaces are paler with scattered microscopic hairs. The bark is light brown, thin, smooth and slightly scaly.

After the leaves have died, in October or November, the witch-hazel bears its flowers. They grow in feathery, golden clusters. The thread-like flowers are about one inch long and open from late November through January. The fruits do not ripen until next year. Each fruit consists of a woody capsule about ½ inch long containing two shiny black seeds. Seeds are ejected from 15 to 25 feet on opening.

The common name of the plant is derived from the fact that it is used by "water diviners" to locate sources of water and precious metals. It was believed that "divining rods" made from forked twigs would tuck in the hand when the one who held it passed over the spring or mine.

Witch-hazel lotion, or hamamelin, is a tonic and healing astringent, applied on the skin or taken internally. It is made by distilling the leaves, twigs and bark in alcohol. Physicians prescribe it for bruises, sprains, piles, ulcers, hemorrhage, and skin troubles. The aromatic extract (Ponds Extract) has long been used in shaving lotions and toilet water as a mild astringent.

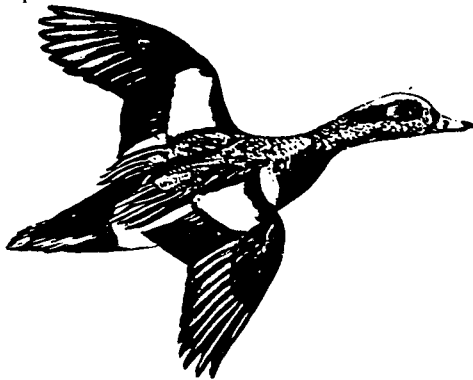


Witch-Hazel
Hamamelis virginiana

Volunteers

Volunteers have been very helpful over the last few months. Some of these individuals have helped out with the school groups. Bob and Dana Murphy have assisted weekly with younger groups from local elementary and intermediate grade levels. Caterina Kenworthy has led boardwalk tours and interpreted the butterfly gardens. Kenny Hempfleng donated his time in setting up six aquaria at the Interpretive Center. The effort of these individuals and many other is greatly appreciated.

Water quality volunteers have met two times during the fall. This group is in the planning stages to set up a monitoring program in the Weeks Bay watershed. A planning meeting was held on October 31, and a training activity followed on November 14. Volunteers involved at this time include Dick Cain, Paul Johnson, Jane Jeffers, Robina Frolik, Eileen and Larry Knapp, Harry Anderson, Oscar Rich, Maureen Nation, Harry Larsen, and Billie and Carey Bentley. Individuals wishing to participate can call the Reserve (928-9792).



American Wigeon
Anas americana

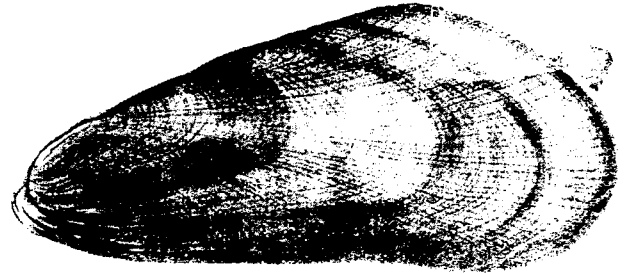
The Ribbed Mussel

The ribbed mussel (*Geukensia demissa*) is the only mussel well adapted for living in tidal marshes along the northern Gulf. It lives in clumps at the base of cordgrass (*Spartina alterniflora*) stands near the mean tide line especially along the margins of tidal creeks. It anchors itself in the substrate by means of byssal threads attached to cordgrass rhizomes; adults are usually burrowed up to their siphons in the mud. The ribbed mussel seems to thrive where cordgrass fares well, but tends to be absent when cordgrass stands are sparse. As this mussel lives tidally exposed at least half of its life, it has developed some interesting adaptations for survival in air, for example, valve gaping, providing for aerial respiration. This is most effective when the mussel lives under the protection of dense vegetation cover, which helps to maintain relatively high humidity and reduce desiccation stress. It has broad thermal and salinity tolerances and is especially tolerant of subfreezing temperatures. It is photosensitive and, as a possible predator defense, responds to shadows by closing its valves both when submerged and exposed. Raccoons prey on ribbed mussels.

The ribbed mussel is an important biological contributor to sedimentary processes. It is an efficient filter feeder, removing considerable particulate phosphorus and nitrogen from the water and depositing it on the floor of the marsh. Nutrient

binding and deposition by the ribbed mussel provides an otherwise unavailable concentration of nutrients to worms and other organisms.

Reproduction occurs in the spring. It takes approximately two years for a young mussel to reach maturity, and they can live ten years or more in well protected estuarine habitats.



Ribbed Mussel
Geukensia demissa

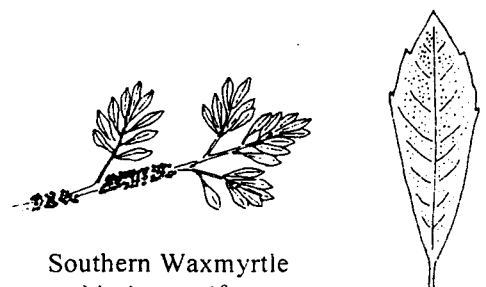
Southern Waxmyrtle

Southern waxmyrtle (*Myrica cerifera*) is one of the most common shrubs forming the upper border of the marsh at Weeks Bay. Several specimens grow around the observation platform on the boardwalk nature trail. It is usually shrubby in form, often with several stems from near the base and occasionally reaches 30 feet in height. The bark is light gray, smooth and thin.

The leaves are evergreen, simple, alternate, 2 to 4 inches long and ¼ to ¾ inch wide. Those toward the end of twigs are often smaller. They are coarsely saw-toothed, slightly thickened, stiff and aromatic when crushed. The upper surface is shiny yellow-green and the lower surface is paler and covered with tiny, bright orange glandular resin dots.

Tiny, yellow-green male and female flowers are produced on separate trees in the early spring. Tiny clusters of fruit, each about 1/8 inch in diameter and covered with thick, bluish-white wax mature in late summer and fall are often persistent until spring.

Early settlers separated the fruits waxy covering in boiling water to make fragrant-burning candles, a custom still followed in some countries. The waxy fruit covering furnishes most of the bayberry wax used for candles. The species is used ornamentally for their evergreen foliage, fast growth, shrubby or tree-like appearance and as a source of honey. The plant has root nodules and is known to fix nitrogen, a trait which allows it to grow in poor soils and which has proven useful in reclamation and erosion control efforts. It is one of the very few Puerto Rican trees native also in the United States north of Florida.



Southern Waxmyrtle
Myrica cerifera

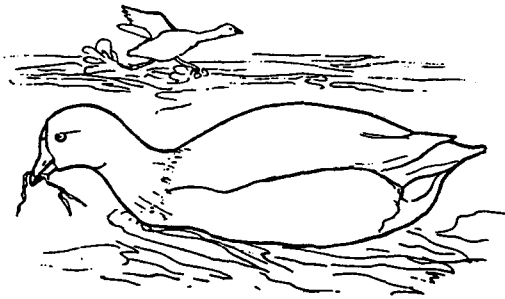
American Coot

The American Coot (*Fulica americana*) is a common winter resident and an abundant migrant in coastal Alabama where it is known by its Creole name "poule d'eau". It is easy to find between October and May and uncommon, rarely breeding in summer.

During the winter months they gather into large flocks and feed in ponds and shallow estuaries mainly in open water where they are often mistaken for ducks. The 12-inch long American Coot, however, has a small head, which it pumps back and forth like a chicken, and it has a small whitish bill and small reddish-brown forehead shield. It is a slate-gray bird, darker on the head and neck, with white under the tail feathers and a small white boarder on the inner edge of the wings. The feet a greenish-yellow and lobed. This bird dives expertly and when taking flight, patters across the water.

In secluded estuaries and reed-grown ponds where they love to feed these birds become very talkative, uttering a variety of curious squawks and cacklings. Their food consists of seeds and leaves of aquatic plants as well as small snails, crustaceans, worms and insects.

The observation platforms overlooks Weeks Bay and the Mobile Bay causeway are good places to see these birds.



American Coot
Fulica americana

Yaupon

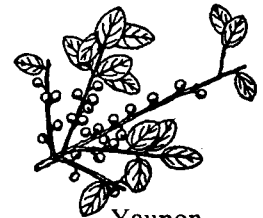
Yaupon (*Ilex vomitoria*) is an evergreen shrub or small tree that grows along the upper edge of the marsh at Weeks Bay. It is common on moist sandy soil and several plants can be observed from the observation platform on the boardwalk nature trail. It occasionally reaches 25 feet in height and the bark is reddish-brown.

The leaves are single, alternate, 3/4 to 1 1/4 inch long and 1/4 to 1/2 inch wide. The upper surface is shiny dark green, and the lower surface is paler. This species is distinctive from other hollies with the small, blunt-tipped leaves and round toothed leaf margins around the entire blade.

Tiny white flowers appear in the early spring at the base of old leaves; male and female on separate plants. The rounded, 1/4 inch fruits are bright red, rarely yellowish, numerous on short stems, and mature from October through November.

Deer readily eat the leaves and twigs in fall and winter. The fruits are sought the year round by deer, quail, turkeys, squirrels, raccoons, and many songbirds, all of which help distribute the seeds.

Yaupon is widely used as an ornamental for Christmas decorations because of its lustrous foliage and numerous red berries. The leaves contain caffeine, and American Indians used them to prepare a ceremonial black tea which, when consumed in excess causes vomiting, thus the derivation of the scientific name. Tribes from the interior traveled to the coast in large numbers each spring to partake of this tonic. The tea in a weaker form was used for refreshment.



Yaupon
Ilex vomitoria

Elderhostels

Weeks Bay has assisted with four different elderhostels this fall as arranged through Faulkner State Community College and the University of South Alabama. Joan Hand (FSCC) arranged two days of activities for two elderhostels and Carolyn Dunnam (USA) arranged three days of activities for two elderhostels. Elderhostel activities were advertised nationally and made available to senior citizens from various states.

The elderhostels were highly structured moving from classroom through exhibits and along the boardwalk. The subject matter was estuarine ecology and included a pontoon boat trip up the Magnolia River. Many birds were identified and organisms were collected and studied exemplifying the high productivity and varied complexities of the estuarine nursery grounds. Harry Larsen, a retired forestry professor from Auburn University, led a botanical tour along the boardwalk. Harry is a volunteer and shares his expertise with many groups as well as working with the staff in developing interpretive materials. All four elderhostels had a terrific time, learned a lot and left the area with a greater understanding of estuaries.

"BY NATURE ALL MEN ARE MUCH ALIKE, BUT
BY EDUCATION THEY BECOME DIFFERENT."

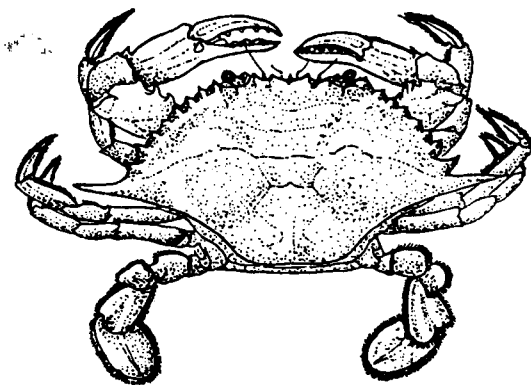
Visit the Weeks Bay Interpretive Center and Nature Trails.

Office Hours are: Monday - Friday
 8:00 a.m. to 5:00 p.m.
 Saturday
 9:00 a.m. to 5:00 p.m.
 Sunday
 1:00 p.m. to 4:00 p.m.

If you are interested in scheduling a special
group activity, call 928-9792.

Molting

Blue crabs are covered by a rigid, hard "shell" referred to as an exoskeleton. It is partly composed of a material called chitin, and the presence of calcium salts adds strength. When the crab grows too large for its shell, it must shed its shell. This casting-off of an outer covering is called a molt. Since the shell is hard and will not expand, the crab increases in size only when it molts, although the growing process goes on continuously. As the crab approaches the molting process, a narrow black line appears just within the thin outer and the black margins of the two segments of the swimming legs. In a few days the line becomes white, and still turns to red or pinkish red. The old shell is loosened and the new shell is visible beneath. Wrinkles appear on the claw between the wrist and the upper arm. As the crab begins to molt, the carapace (upper shell) is lifted slightly, revealing a gap between it and the abdomen (lower shell). The shell cracks on either side of the under surface and the posterior part of the body begins to protrude. Over a period of a few minutes, the crab completes the process, gradually "backing out" of the old shell. Immediately after the molting the skin is soft and wrinkled. At this stage the crab is called a "soft shell". "Peelers" are crabs caught just before molting. Forty-eight hours later the new shell has hardened and the crab is back to normal, a good deal larger than it was a couple of days earlier. Increase in size results from uptake of water by the crab which stretches the new exoskeleton before it hardens. A molt may result in growth up to 25 percent of the crab's former size. Weight begins to increase as soft structures inside the new shell continue to grow. Female crabs do not molt after becoming sexually mature. Male crabs continue to molt and grow, often reaching a larger size than females. Blue crabs undergo approximately 25 molts during a lifetime, with small ones shedding every few days and the interval between molts increasing as they grow. Growth in Alabama waters is rapid. Under good conditions, a female may reach maturity and spawn in 12 months.



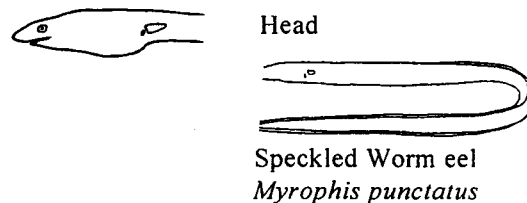
Blue Crab
Callinectes sapidus

Some Burrowing Fishes

The speckled worm eel (*Myrophis punctatus*) is one of the most common eels in estuaries along the northern Gulf of Mexico. It is slender, wormlike and reaches about 17 inches in length. The color is brownish-yellow above and on the entire posterior half. Tiny black spots are found everywhere except the lighter colored belly. The snout is pointed, the upper jaw projects beyond the lower, and the mouth extends beyond the oval eye.

These eels are ideally designed for burrowing in soft mud and sand in bays and tidal creeks where they feed on various kinds of marine worms. One morning while wading and fishing in Old River, the writer observed a speckled worm eel swimming slowly over the surface of the bottom looking for food. The eel looked into several worm holes before finding one with a worm in it where it quickly burrowed head first into the hold and completely disappeared.

Because of their burrowing habits, they are not usually observed except in shrimp trawls and sein collections made in shallow water. However, they are seen in large numbers during jubilees on the eastern shore of Mobile Bay. In fact, speckled worm eels are good indicator organisms prior to jubilees. They leave their burrows when oxygen-poor water forces them to randomly swim near the surface where they provide food for sea gulls and speckled trout. During jubilees, speckled worm eels are usually seen burrowing tail first near the shoreline.

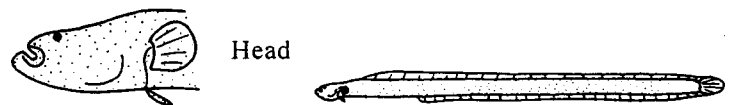


Head

Speckled Worm eel
Myrophis punctatus

The pink wormfish (*Microdesmus longipinnis*) is a very secretive, burrowing species inhabiting sand and mud bottoms of estuaries over a known range of a few inches to 30 feet. This slender species reaches about ten inches in length. The normal is tan sprinkled with numerous light brown melanophores on the upper head, dorsum and upper sides. Melanophores are reduced or absent on the ventral parts of the body and fins. The dorsal and anal fins are long and continuous with the caudal fin. The eyes and mouth are small and the lower jaw projects past the upper jaw. The scales are microscopic. Although related to the gobies, one would never realize this from its appearance.

Pink wormfishes are rarely seen although they may be locally abundant. They are occasionally observed swimming on the surface at night although they are seldom seen in large numbers. The best time to observe them is during jubilees when oxygen-poor water forces them to leave their burrows. During jubilees, pink wormfishes are pink in color. This is probably a physiological response to the poorly oxygenated water.



Head

Pink Wormfish
Microdesmus longipinnis

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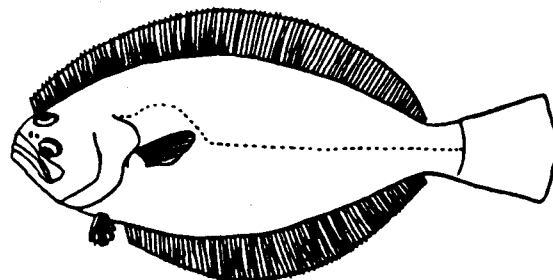
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Paralichthys lethostigma