

Alabama current connection

MBNEP Oyster Gardening Program Releases 63,000 Juvenile Oysters

By TOM HERDER, MOBILE BAY
NATIONAL ESTUARY PROGRAM

On November 13th and 14th, the Mobile Bay National Estuary Program's (MBNEP) Oyster Gardening Program released 63,000 juvenile oysters into the Bay for its seventh consecutive year. Unlike 2004 (Ivan) or 2005 (Katrina), no hurricanes disrupted 2007 efforts, but it was not exactly a "normal" year. In fact, Mobile, MSNBC's "rainiest city in the U.S.," suffered (according to the National Weather Service) "severe to extreme" drought conditions, with mid-October annual rainfall levels 15 inches below normal. With northern portions of the watershed receiving even less rain, the estuary's normally brackish waters have been unusually salty, complicating oyster gardening efforts.

MBNEP's Kara Lankford oversees the program and directs the volunteer gardeners – who own waterfront docks around the bay – through the process. In a "normal" year, discarded oyster shells are "bagged" in late winter months. To capture settling oyster larvae, called "spat", half of the mesh bags are placed on Cedar Point Reef and the other half in tanks at the Auburn Shellfish Lab hatchery on Dauphin Island. When bags are recovered two weeks to a month later, the shells contain "spat sets", usually consisting of five to ten attached young oysters about the size of a fingernail. In early June, Kara and partners from the Auburn University Marine Extension and Research Center (AUMERC) deliver two of the bags to each



Oysters are removed from gardeners' cages prior to release on November 13.

volunteer. Each volunteer divides all of their shells into four wire cages suspended in the water from his or her dock. Once a week through summer and early fall, volunteers pull their cages to remove predators, like oyster drills or blue crabs, and hose out fouling organisms like algae or bryophytes. In November, having reached a size of one to two inches, the juvenile oysters are counted, collected, and deployed. One day is spent collecting oysters in Baldwin County and releasing them onto reefs too small for commercial harvesting. The next day the process is repeated in Mobile County. Surviving female oysters will release up to 100 million eggs the next spring as water temperatures warm.

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Oysters are deposited on reefs by Alma Bryant High School students as AUMERC's Blain Page watches.

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Coastal Corner

By CARA STALLMAN, ADCNR-STATE LANDS DIVISION, COASTAL SECTION

Coastal Alabama Received Coastal Impact Assistance Program (CIAP) Funding

The Energy Policy Act of 2005 was signed into law by President Bush on August 8, 2005. Section 384 of the act establishes the Coastal Impact Assistance Program (CIAP) which authorizes funds to be distributed to Outer Continental Shelf (OCS) oil and gas producing states to mitigate the impacts of OCS oil and gas activities. Eligible states are Alabama, Alaska, California, Louisiana, Mississippi, and Texas. Funding will be shared among the states and respective Coastal Political Subdivisions (CPS) per formulas outlined in the legislation. Two hundred fifty million dollars will be distributed to the states annually for FY 2007-2010. In Alabama, the State of Alabama, Baldwin County, and Mobile Counties are the recipients of CIAP funding.

The CIAP legislation defines five authorized uses of CIAP funds. These authorized uses of CIAP funds are:

- 1 Projects and activities for the conservation, protection, or restoration of coastal areas, including wetland.
- 2 Mitigation of damage to fish, wildlife, or natural resources.
- 3 Planning assistance and the administrative costs of complying with this section.
- 4 Implementation of a federally-approved marine, coastal or comprehensive conservation management plan.
- 5 Mitigation of the impact of Outer Continental Shelf activities through funding or onshore infrastructure projects and public service needs.

In order to receive CIAP funding, eligible states must submit a Draft Plan to MMS and receive approval. In November of 2005, Governor Bob Riley appointed

Commissioner M. Barnett Lawley of the Alabama Department of Conservation and Natural Resources (ADCNR) as the principal entity for administering the CIAP. Further, the Commissioner designated the State Lands Division (SLD) within the ADCNR as the entity for administering day-to-day CIAP activities. Since fall of 2005, representatives from the State of Alabama, Baldwin County and Mobile County have met regularly to coordinate all aspects of Alabama's CIAP. In March of 2007, a public meeting was held to announce the CIAP. The framework of CIAP was explained at this meeting, and CIAP program suggestions were solicited from the public. In April of 2007, the funding allocation for the first two years of the program was announced. The State of Alabama will receive \$51,103,214.08, or \$25,551,607.04 per year. Of this amount, 35% is allocated to the coastal political subdivisions to be divided on a formula based on miles of coastline, population, and distance from OCS oil and gas leased tracts. Baldwin County will receive \$7,984,094.64, and Mobile County will receive \$9,902,030.28 for FY 2007 and 2008. During the spring and summer, the State of Alabama, Baldwin County, and Mobile County assessed priorities and compiled a Draft Plan for funding from

the first two years of the Program. A second CIAP Plan will be developed for FY 2009-2010 funding allocations.

The Draft State of Alabama CIAP Plan for FY 2007 and 2008 was released for public comment at a public meeting at Five Rivers Alabama's Delta Resource Center on August 30, 2007. Written comments were accepted until October 1, 2007. At this time, written comments are

being reviewed and a Final CIAP Plan will be submitted to MMS for approval in the future.

Examples of some CIAP projects incorporated in the Draft Plan include acquisition of approximately 5,000 acres of the Perdido River corridor, restoration of longleaf pine throughout designated protected areas in the coastal counties, expansion of water-based canoe trails in the southern Delta and other coastal areas, and further investigation of restoration opportunities relating to the Mobile Bay Causeway.

For more information on the State of Alabama CIAP, or to download the Draft CIAP Plan, please visit www.alabamaciap.com. You can also contact Cara Stallman at 251.621.1238 (Cara.Stallman@dcnr.alabama.gov) or Will Brantley at 334.242.3484 (Will.Brantley@dcnr.alabama.gov).

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Estuary Reflections

DAVID W. YEAGER, DIRECTOR MOBILE BAY NATIONAL ESTUARY PROGRAM

Aquatic Nuisance Species Management Plan

For the past four years, it has been my pleasure to serve first as vice chair and then as chair of the Gulf and South Atlantic Regional Panel on Aquatic Invasive Species, which advises the National Aquatic Nuisance Species Task Force convened by the U.S. Congress. This has been both a rewarding and a learning experience. “Rewarding” because I have been privileged to work with true experts in this field of biological science and “a learning experience” because the range of subject matter is so diverse and continually intellectually stimulating. The Panel has discussed topics as varied as the exotic pet trade and the potential use of non-native species as agents for bioterrorism.

One thing has become clear to me throughout this association. We, as the human vector in the spread of non-native species, are responsible for creating or compounding tremendous ecological change worldwide, and we have not and are not acting with sufficient care to prevent potentially devastating economic, public health, and ecological impacts

associated with careless introductions of non-native species, whether these introductions are intentional or unintentional.

It is certainly true that introduction of non-natives is not all bad. We only have to look at the Chinese ring-necked pheasant, European brown trout, striped bass, and many agricultural crops such as soybeans to see both economic and

ecological successes. In fact, were it not for the introduction of brown trout in the northeastern U. S., it can be argued that a cold water trout fishery would not even exist in areas where we have so modified stream conditions through pollution that native brook trout and rainbow trout find it increasingly hard to survive.

It is also true, that we often are guilty of overstating the potential impact of a non-native species when, in fact, we simply do not know what the results will be. The real problem is just that – the unknown. By the time the impact is well established, it is often too late to reverse the damage. Well-meant introductions like Kudzu, silver and big head carp, and certain other aquaculture species or biological control agents, as well as accidental introductions like hydrilla, the zebra mussel, fire ant, cogon grass, and the tropical soda apple, provide examples of organisms that have tremendous adverse impact that no reasonable amount of effort has effectively controlled. As a dramatic example, “ground

zero” for the introduction of hydrilla, the so called “perfect aquatic weed” was South Florida in the late 1950s resulting from a single shipment associated with the aquarium trade. Since then, hydrilla has spread throughout large portions of the U.S., even so far as the Pacific Northwest. Although some argue that hydrilla may benefit a few species, its impacts on water quality



Photo by Leslie Hartman

“We, as the human vector in the spread of non-native species, are responsible for creating or compounding tremendous ecological change worldwide...”

DAVID YEAGER
DIRECTOR, MOBILE BAY NEP



Photo by Leslie Hartman

and usability are overwhelmingly negative. According to the Smithsonian Marine Station in Fort Pierce, the State of Florida was spending over \$14 million annually in 1995 to simply reduce hydrilla’s concentration in state waters.

Today, as never before, we are creating opportunities for mass introductions through such venues as the aquarium trade, exotic pet trade, and aquaculture. This has become big business with concomitantly larger impacts. Illegal introductions have an even more sinister potential. During a recent meeting in Miami, panel members were able to visit the Port of Miami with U.S. Fish and Wildlife Service (FWS) officers. There the panel witnessed incoming shipments of exotic wildlife from places like Borneo, Tanzania, Indonesia, and others. The volume and diversity of legal shipments alone were astounding: hyenas, venomous snakes, fishes, geckos, other lizards, and scorpions are a few of the species that arrive in the U.S. on a frequent basis. What was not apparent were smuggled shipments of illegal exotic animals entering with individuals or concealed as otherwise innocuous cargo. Interpol estimates that the illegal trade in exotic wildlife ranks third worldwide in terms of dollars, behind arms trading and drug smuggling. Estimates provided in a 2003 conference estimate the worldwide total at as much as \$72 billion a year. Such big dollars provide a motive for taking big risks. According to a former FWS Chief of Enforcement quoted by the Animal Protection Institute “there is no stigma attached to being an animal smuggler. If you get caught illegally transporting animals on a first offense, it’s possible you won’t even do jail time. You can’t say the same for running drugs.”

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Estuary Reflections: Aquatic Nuisance Species Management Program

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The aquarium trade and aquaculture, both legal and ethical ventures when conducted responsibly, and the legal trade in exotic pets account for numerous other introductions. Usually these are inadvertent – as escapees from fish farms – or intentional as these animals outgrow their aquarium or “pet” settings or the interest of their owners and are released. Big head and silver carp, Asian swamp eels, piranha, pacu, lionfish, Burmese pythons, and Nile monitor lizards have all established populations in certain areas of the southeast. You name it, and we may soon encounter it in the wild along the Gulf of Mexico coastline where a broad range of habitat and semi-tropical climate exist.

Increases in opportunities for introduction through legal commercial ventures and illegal venues add to an already high degree of opportunistic transfer and introduction in Gulf and South Atlantic states because of our abundant pathways, favorable climate, and altered habitat resulting from rapid growth and development and frequent natural hazards like hurricanes. These factors necessitate development and implementation of well conceived management plans for non-native and potentially damaging plants and animals. The best of these plans address: 1) identification of pathways of introduction, 2) species of concern, impacts and extent, 3) monitoring programs, 4) rapid response strategies, and 5) the responsible legal authorities with relevant jurisdiction in dealing with non-native species. These plans provide states the tools to deal with the growing challenge of non-native introductions and help us balance valid economic, public health, and ecological concerns with promotion of legitimate economic interests. In the southeast, Texas, Louisiana, and Florida have completed their plans. Mississippi has a draft under public review and comment, and Alabama has completed a draft plan that is undergoing preliminary internal review. It will soon be available for public comment. I urge you to carefully and thoughtfully comment on this plan when it becomes available. The challenges we face in this arena have potentially wide-ranging and long-term impacts. They deserve consideration beyond simple self interest and personal economic gain.

GreenCoast 2008 to Promote Green Building Along the Gulf Coast

*By TOM HERDER, MOBILE BAY
NATIONAL ESTUARY PROGRAM*

To introduce and promote healthier building practices that benefit occupants and the environment, GreenCoast 2008 will be held at the Outlaw Convention Center in Mobile on Wednesday and Thursday, April 9 and 10. This Southeast Regional Conference/Green Expo is being produced by SmartCoast and the U.S. Green Building Council, Alabama Chapter, to encourage sustainable building practices along the Gulf coast. The conference will include a pre-conference LEED NC (Leadership in Energy and Environmental Design for New Construction) certification workshop on Tuesday, April 8. Green building is the practice of increasing the efficiency of buildings and their use of energy, water, and materials, and reducing building impacts on human health and the environment, through better siting, design, construction, operation, maintenance, and removal – the complete life cycle of a building.

A goal of GreenCoast2008 is to change the way buildings are designed and constructed in the rapidly developing states of Alabama, Mississippi, and Florida. While the concept of Green Building is fairly new to the Gulf coast, the opportunities for implementation are enormous. This conference offers professionals a chance to network and learn from experts in the field. Presentations will be geared specifically to address local climate conditions and culture. Builders, developers, realtors, and planners will earn CEU credits while learning new ways to reduce energy use and environmental impact while saving money and appealing to consumers.

An outstanding list of speakers will be featured, including Geoge Bandy, Dr. Richard Jackson, and Dr. Jennifer Languell. The conference starts with Bandy, a native of Opelika, currently the Ex-Officio Chairman of the Atlanta Regional Chapter of United States Green Building Council

(USGBC), and a LEED Accredited Professional with “Why Build Green?” on Wednesday at 8:30AM. Dr. Jackson, the Director of the National Center for Environmental Health, Centers for Disease Control and Prevention, will discuss “Your Health and Your Building” on Wednesday at noon. Dr. Languell, the award winning author and founder and President of Trifecta Construction Solutions, will provide the keynote presentation, “How Green Building is Working” at 11:45AM on Thursday.

In addition to talks and presentations, GreenCoast 2008 will feature a Green Expo and a student demonstration project.

The Expo, with exhibits opening at 8AM daily, will showcase products, materials, and technologies used in sustainable construction and remodeling. Two student groups – one from the Alabama School for Math and Science in Mobile and the other from the South Baldwin Center for Technology in Robertsdale – will employ “Green Building” technology in constructing two model buildings – a new building and a “renovation”. The constructed models will be displayed at the conference with informative signage to provide examples/demonstrations to conference attendees of what each of them can do realistically.

SmartCoast is seeking additional sponsors to join those already on board. Currently, the sponsor list includes Platinum Sponsor White-Spinner Construction; Mobile Gas at the Gold level; Mobile Bay NEP at the Silver level; and Alabama Power, the Alabama State Port Authority; Tonsmeire Properties; BES, Inc., and the Downtown Mobile Alliance at the Bronze Level. Meyer Real Estate; ADCNR-State Lands Division, Coastal Section; Weeks Bay Foundation; Herndon Design; and Walcott Adams Verneville Architects are Ally Sponsors, and Metcalf and Co. is a Contributor. For more information, to register, or to sponsor GreenCoast 2008, contact Wendy Allen or Charlene Lee of SmartCoast at info@smartcoast.org or (251) 928-2309.



Mobile County Grasses in Classes Program is Leaving Its Mark



Baker High School students work together to plant black needle rush on a shoreline east of Brookley Field.

BY KARA LANKFORD, MOBILE BAY NATIONAL ESTUARY PROGRAM (MBNEP)

Like its Baldwin County counterpart, Mobile County's Grasses in Classes (MCGIC) Program is doing its part, site by site, to restore wetlands and dune vegetation up and down the western shore. Overseen by MBNEP Program Coordinator Kara Lankford and Mobile County Resource Teacher Desiree Bishop, the MCGIC Program includes students and teachers from Baker, Murphy, and Satsuma High Schools. With supervision from faculty



Desiree Bishop oversees Baker High School students working together to plant black needle rush on a shoreline east of Brookley Field.

members, students involved in the MCGIC Program have been growing and planting native plants in areas degraded by recent hurricane and human activity.

MCGIC activities for calendar year 2007 include the following:

◆ On March 28, 18 Murphy High School Marine Biology and Environmental Science students planted approximately 1,000 plants (sea oats [*Uniola paniculata*] and panic grass [*Panicum amarum*]) behind the Dauphin Island Sea Lab (DISL). Murphy teachers Sharon Delchamps and Anita Bryan supervised Murphy GIC efforts. Since Murphy High lacks nursery facilities, plants used in their projects were purchased from retail vendors.

◆ On March 29, 13 Murphy students planted an additional 1000 plants (sea oats, morning glories [*Ipomoea imperati*], and panic grass) behind the golf course on Dauphin Island.

◆ Since the DISL site is subjected to heavy foot traffic, Murphy students produced signs that read: Murphy Dune Project. Three seniors traveled to DISL on April 4 and posted the area.

◆ On May 15, ten Satsuma High School students, under the supervision of Biology teacher Sharie Whitlock and Kara Lankford, undertook a restoration project at the River Delta Marina County Park in Creola. The students used shovels, hand trowels and bare hands to plant 370 plants,

including bull tongue/duck potato (*Sagittaria lancifolia*), pickerel weed (*Pontedaria cordata*), soft rush (*Juncus effusus*), and blue flag iris (*Iris virginica*), in the soft soil.

◆ On October 29, 21 Baker High School students supervised by Biology teacher Jennifer Stevens planted 300 black needle rush (*Juncus roemerianus*) plants along the shoreline east of Brookley Field. The plants were grown in their campus nursery facilities.

◆ On November 14, 15 Satsuma students supervised by Ms. Whitlock and Ms. Bishop, supplemented Baker's Brookley Field effort with 200 more black needle rush plants grown in the Satsuma High nursery.

MCGIC efforts over the holidays will be directed at maintenance of nursery stock. Mobile County planting efforts will resume with the New Year.

Wolf Bay Watershed Watch and SouthWings Team-Up for Aerial Assessment

BY STAN MAHONEY,
WOLF BAY WATERSHED WATCH

On Saturday, 6 October, three skilled volunteers flew from Foley's Airport to perform a baseline aerial photographic and visual assessment of the Wolf Bay Watershed. Over 350 photographs of Wolf Bay and its most significant tributaries were taken by Tommy Patterson of Gulfcoast Aerials and Leslie Lassitter, Environmental Officer with the City of Foley. Don Luke, a volunteer with SouthWings, a non-profit organization which supports environmental and historical conservation efforts, was the pilot for the flight. Each participant is a member of the Wolf Bay Watershed Watch, and SouthWings is based in Asheville, North Carolina. A complete listing of each organization's services may be found on their web sites www.southwings.org and www.wolfbaywatch.org.

Mobile County Wildlife and Conservation Association (MCWCA) Marsh Planting

By TOM HERDER, MOBILE BAY NATIONAL ESTUARY PROGRAM

Early Saturday morning, November 10, amid the hustle and bustle of the FKW Stren Series Fishing Tournament, 13 MCWCA members launched seven boats at the Chocolatta Boat Launch. But these fishermen were not participating in the tournament, and they were carrying garden tools rather than fishing rods. With Randy Roach, of the U.S. Fish and Wildlife Service (USF&WS) and Mobile Bay National Estuary Program (MBNEP) staff, MCWCA members planted 700 black needle rush (*Juncus roemerianus*) plants on a large, exposed sand bar across the Tensaw from the USS Alabama.

MCWCA members have noted the lack of marsh vegetation on this large mud flat which is exposed at low tide and visible from the Causeway. The site was selected by Marl Cummings, III of MCWCA; David Yeager and Kara Lankford of the MBNEP; and Roach as a likely candidate for the establishment of a salt marsh. The



MCWCA volunteers relax after planting 700 black needle rush plants on an exposed sand bar across the Tensaw River from the Battleship on Saturday, November 10.

plants were purchased with MBNEP funds from a grant from the USF&WS.

Salt marshes provide many services to the coastal ecosystem. They stabilize sediments; provide habitat, food, spawning, and nursery areas for numerous marine and estuarine species; and improve water quality by absorbing nutrients. The creation of a new salt marsh would represent a valuable enhancement to the coastal environment.

This planting took less than an hour,

so Mr. Cummings suggested that his organization would be willing to undertake a much larger effort at the site. He suggested that MCWCA would be willing to plant 5,000 plants if they were made available. Capt. Yeager indicated that the MBNEP would fund the effort. MBNEP Program Coordinator Lankford is currently planning the follow up project and waiting for hunting season to end so that MCWCA volunteers will be available.

MBNEP Oyster Gardening Program Releases 63,000 Juvenile Oysters

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All of it got done this year, but not without adjustments and flexibility. Forty-four volunteers were trained and received cages or materials to build them in May. Alma Bryant High School student volunteers helped bag the shells in February and March. The bags were placed on Cedar Point or in hatchery tanks for spat collection in early June. However, all of the spat initially collected from the Auburn hatchery died for no apparent reason. A second attempt was more successful but caused a delay. With salinity at Cedar Point roughly twice normal levels, those spat sets were smaller than “normal”. Volunteers received their bags, containing relatively modest spat

sets, about a month late in early July.

The unusually high salinity provided more challenges. Oyster drills, snails that are the main predator threatening young oysters, are “normally” limited by low salinity. With salinities this summer almost that of seawater across the Bay, oyster drills and blue crabs were large, abundant, and hungry, menacing the spat and challenging their volunteer hosts. Further, the higher salinities seemed to favor algae and other fouling organisms, so cages became unusually heavy and difficult to handle for the persistent volunteers. However, about 63,000 of this year’s crop have survived and grown to sufficient size to enhance the reefs. With help from AUMERC staff and Bryant High School volunteers, the oysters

were collected and delivered to their new homes in the Bay in early November.

Kara points out that at least three goals are realized in a successful season of oyster gardening. First, local oyster reefs and the oyster fishery are enhanced by the addition of thousands of healthy juveniles. Secondly, healthy oyster reefs filter and purify enormous volumes of water, so improved water quality is another goal of the program. The third goal is to educate and engage volunteers who learn the importance of oyster reefs and their roles in estuarine ecosystems. As the 2007 oyster gardening effort winds down, Kara feels that the mission was accomplished.

Current events

January

Wednesday, January 30

What: ADEM Non-Point Source Conference

Where: Montgomery Embassy Suites

Contact: Patti Hurley (334) 394-4350 or
e-mail PAH@adem.state.al.us

February

Monday, Feb. 18 and Tuesday, Feb. 19

What: Baldwin County Water Festival

Where: Daphne United Methodist Church

Contact: Mike Shelton (251) 928-9792 or
e-mail michael.shelton@dcnr.alabama.gov

The FOCAL Point

<http://focal.disl.org>

BY DR. FRANK HERNANDEZ AND
HEATHER FLETCHER, DISL

Economically important fishes have dominated the coastal battleground for the past three decades. This environment experiences highly variable physical conditions of wind, wave, temperature and salinity - and in three dimensions! FOCAL (Fisheries Oceanography of Coastal Alabama), a new DISL research initiative funded through the Marine Resources Division of ADCNR, is examining the relationship between environmental variability and marine fisheries resources, with a specific focus on the early life stages (eggs and larvae) of fishes. The program uses an ecosystem-based approach to address the linkages between the physical and biological processes that affect the survival of fish larvae and therefore the resulting fishery.

One of the major goals of FOCAL is to establish a monitoring program from inside Mobile Bay to approximately 35 miles offshore in support of a long-term fishery-independent study of selected economically important species in coastal Alabama. Plankton samples are collected at various depths along the transect throughout the year. The vertical distribution of these early life stages within the several layers of the coastal waters is one of the least studied aspects of the community. Fish eggs and larvae, or ichthyoplankton, along with zooplankton (which include ichthyoplankton predators and prey) are sorted from the samples, counted and identified. These data are then used to estimate the abundance, distribution, seasonality and species composition of the ichthyoplankton and their potential predators and prey (M. Graham, F. Hernandez and S. Powers, co-PIs). Such

information is crucial in assessing linkages between the physical environment and larval supply, survivorship, recruitment, and fisheries production. In addition, long term monitoring of ichthyoplankton and zooplankton assemblages can serve as an indicator of ecosystem health and provide new data sets for the various fishery management models that exist.

The FOCAL program also supports additional biological sampling efforts across the shelf that target food web pathways important to fisheries resources. For example, the larger bottom-living invertebrates are collected along the coast with benthic grabs to assess the distribution, abundance and habitat associations of potential food resources for juvenile and adult fishes (K. Heck, co-PI). Additional sampling events measure the abundance, type and productivity of marine microalgae (microscopic single-celled plants) and bacteria to assess variability in food quality for the fish and zooplankton that eat them (H. MacIntyre and R. Kiene, co-PIs).

All of these biological measurements are supported by the continuous measurement of physical data (salinity, temperature and current velocity) from a mooring station donated by Conoco Phillips approximately 11 miles offshore (K. Park, co-PI). Because currents and the physical properties of coastal water masses can affect the distribution and survivorship of fish early life stages, these data will be valuable in characterizing water column stratification and vertical mixing processes.

FOCAL will provide a solid foundation for the research that will be conducted in the Richard C. Shelby Center for Ecosystem-Based Fisheries Management scheduled to open at the Sea Lab in January 2009.

Alabama current connection

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Daphne High School Students Conduct Wetland Restoration Project at Five Rivers Delta Resource Center



By MARGARET SEDLECKY, WEEKS BAY NATIONAL ESTUARINE RESEARCH RESERVE, EDUCATION COORDINATOR

On September 28th students from Daphne High School along with staff from Weeks Bay National Estuarine Research Reserve; ADCNR, State Lands Division, Coastal Section; and U.S. Fish and Wildlife Service planted over 200 wetland plants along a shoreline at the Five Rivers Delta Resource Center. The students grew the plants – Bull Tongue and Pickerelweed –

in small wading pools in a greenhouse at Daphne High School. The Daphne High Agriculture Science students and their teacher, Lance Harbison, are participants in the Baldwin County Grasses in Classes (BCGIC) Program. Six high schools in the County are involved with the BCGIC Program. More restorations are planned for later this fall.

The BCGIC coordinates and sustains a network of teachers, students, restoration specialists, and other community members to plan and implement restoration of the hurricane ravaged coastal environments (dunes, salt marshes, submerged grass beds) of Baldwin County, Alabama. With guidance and assistance from restoration specialists and teachers, students grow native plants in outdoor nurseries they have constructed at their schools. During the school year, students work with environmental agency personnel to implement restoration projects on public lands, planting the various types of native vegetation which they have

grown. Since 2005, over 1,000 students have participated in the BCGIC Program and have planted approximately 18,000 native plants in coastal restoration projects in Baldwin County.



Daphne High School students planting wetland plants at Five Rivers Delta Center.