

# Alabama current connection

## Living Shorelines as Alternatives to Bulkheading/ Shoreline Hardening

By TOM HERDER, MOBILE BAY NEP

To protect waterfront property from erosion, property owners along Mobile Bay often turn to bulkheads or other rigid materials for stabilization. According to a 1997 investigation by Dr. Scott Douglass of the University of South Alabama, the percentage of Mobile Bay “hardened” by such practices has increased from eight percent in 1955 to 30 percent in 1997. These data project that half of the Bay will be armored by 2010. While providing temporary protection on the landward side, bulkheads accelerate erosion and result in increased deepening and turbidity, loss of intertidal soft bottom habitat, and elimination of wetland vegetation and submerged aquatic vegetation. Chemicals that leach from materials used to construct bulkheads are often harmful to aquatic life. With approximately 50 percent of Alabama’s coastal wetlands already lost, “living shorelines” offer an alternative to shoreline hardening that is not only environmentally responsible but economically favorable.

A living shoreline combines various stabilization methods to control erosion while either preserving or restoring the characteristics of the estuarine marsh. They typically involve the placement of a “sill” just offshore to absorb wave energy. Sills can be constructed of “biologs” made of coconut fibers that promote and sustain plant growth; wave attenuation devices (WADs), which provide habitat for fish and aquatic organisms; or



Alonzo Landing restoration site.

composite rock or oyster shell, which promote oyster reef formation. Between the sill and the shore, planting of SAV or wetland and shoreline vegetation along with possible placement of sand or dredge spoil restores lost habitat, buffers stormwater, and reduces or even reverses erosion.

The Alonzo Landing living shoreline located along Saw Grass Point Salt Marsh near the Dauphin Island Ferry Landing was sponsored by the Mississippi-Alabama Sea Grant Consortium, the town of Dauphin Island, ADCNR-State Lands Division, the Gulf of Mexico Foundation, Bridgestone-Firestone Corporation, and the D. I. Cub Scouts and Boy Scouts. The project, which serves as a model for a large-scale project along the three-mile causeway north of Dauphin Island, involved the placement of 182 pyramidal concrete WADs just offshore and planting of marsh grasses and native woody plants behind these breakwaters.

*Continued on page 4*

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### Currently Inside

- 1 Living Shorelines as Alternatives to Bulkheading/Shoreline Hardening
- 2 Coastal Corner: State and Regional Governments Receive Good Grade
- 3 Estuary Reflections: Coastal Wetlands Mapping
- 4 “Grasses in Classes” Expands to Mobile County
- 4 Gulf of Mexico Marine Debris Mapping Web Site Launched
- 5 Prescribed Burns Used to Manage Reserve State Lands
- 5 Marine Resources Division Releases Latest Striped Mullet Assessment
- 6 Discovery Day at the Dauphin Island Sea Lab
- 6 Habitat Restoration Efforts of the Wolf Bay Watershed Watch
- 7 MBNEP Welcomes Tom Herder to the Team
- 7 Current Events
- 8 Stow It, Don't Throw It



# Coastal Corner

By PHILLIP HINESLEY, COASTAL SECTION CHIEF  
ACDNR-STATE LANDS

## State and Regional Governments Receive Good Grade

Recently the Joint Ocean Commission Initiative issued a U.S. Ocean Policy Report Card showing that progress on ocean reform has been uneven, and the modest progress that has been made is jeopardized by lack of funding to support the implementation of promising initiatives and plans at all levels of government.

*The U.S. Ocean Policy Report Card for 2006 is listed below:*

- National Ocean Governance Reform ...C-
- Regional and State Ocean Governance Reform .....A-
- International Leadership .....D-
- Research, Science, and Education .....D+
- Fisheries Management Reform .....B+
- New Funding for Ocean Policy and Programs .....F

The Joint Ocean Commission Initiative is a combination of two national commissions, the U.S. Commission on Ocean Policy and the Pew Ocean Commission. In 2003 and 2004 these two commissions released landmark reports on the severe threats facing our ocean and coast. The Commission heard from hundreds of citizens, scientists, industry groups, environmental organizations, and federal, state, and local officials across the nation and found a broad consensus about the problems besetting our oceans and coast.

Since 2005 the two commissions have issued a joint report card on the assessment of the nation's progress during each calendar year toward implementing their recommendations. The results of this evaluation are based upon careful monitoring of ocean

policy developments over the last year and direct communication with leaders of Congress, the Administration, and the regions and states that are responsible for creating and implementing new and approved policies

Under national ocean governance reform, the Initiative encourages Congress and the Administration to improve decision-making, promote more effective coordination and integration of ocean programs, and enable implementation of an ecosystem-based management approach. This needs to incorporate improved leadership, not only at the national level, but for regional, state, and local decision-makers as well.

The Report Card gives an A- for Regional and State Ocean Governance Reform and recognizes that progress is being made in a number of regions, including the Great Lakes, Gulf of Maine, Gulf of Mexico, Puget Sound, and the Northeast, and at the state level in states like California, Florida, and Massachusetts, New York, New Jersey, Alaska, Hawaii, and Washington. However, more regions and states need to develop and implement ocean governance mechanisms, and the federal government should develop a national framework to support regional approaches and collaboration.

Over the last year progress has been made with the Gulf of Mexico Alliance Action Plan and other on-the-ground efforts, such as Gulf of Mexico Alliance Regional Restoration Coordination Team. The Joint Ocean Commission Initiatives encourage the states and regions to continue these efforts and to further this effort by

improving on the following issues:

**Regional Research and Information.** Decision makers at all levels, particularly at the local level, need accurate and timely information about ocean and coastal ecosystems, including how human activities impact those ecosystems.

**Regional Ecosystem Assessments.** Assessments of the natural, cultural, social, and economic attributes in a region are needed to guide management decisions and improve the National Environmental Policy Act process by providing a single regional assessment that can be the basis for individual environmental impact statements.

**Enhanced Regional Governance Through Improved Federal Coordination in Regions.** Government at all levels must work together more effectively at the regional level. Federal agencies must coordinate existing programs and activities to assist and support more effective implementation of regional approaches.

The States, through regional efforts, are making progress, but more work is needed to support regional approaches. Additional collaboration and coordination is needed to build on the efforts that have been made at the regional levels. Improving coordination of federal agency activities at the regional efforts is also an important component to state, local, and citizen's efforts to address ocean and coastal resource management issues on a regional basis.

For additional information on the Joint Ocean Commission Initiative go to: [www.jointoceancommsion.org](http://www.jointoceancommsion.org)

# Estuary Reflections

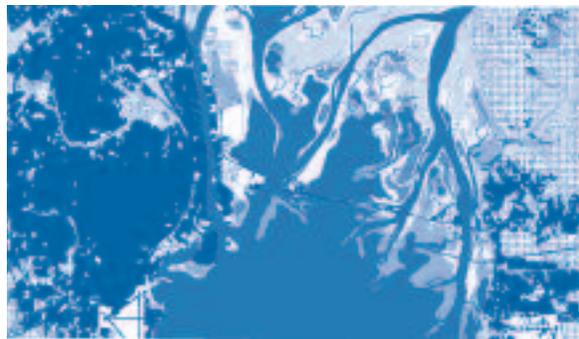
BY DAVID W. YEAGER, DIRECTOR  
MOBILE BAY NATIONAL ESTUARY PROGRAM

## Coastal Wetlands Mapping

### A First and Critical Step Toward Understanding Habitat Change Over Time

The National Wetlands Research Center (NWRC) of the United States Geological Survey (USGS) recently completed the first comprehensive, baseline habitat mapping project describing wetland and upland habitats for Mobile and Baldwin Counties. The project was accomplished under contract to the Mobile Bay National Estuary Program acting for a partnership that included the ADCNR-State Lands Coastal Section, Gulf of Mexico Program, the Baldwin County Commission, the Mobile County Commission, EPA, and NOAA. These habitat maps were generated from digital color-infrared, geo-referenced photography acquired by the USGS, again under contract to the MBNEP on behalf of the several partners, for Mobile County in 2002. Digital Color, infrared photography from 2001 of the same resolution was provided by the Baldwin County Commission. These habitat and wetland maps will provide information for conservation, restoration, protection, and enhancement of Alabama's coastal habitats. This project also provides the most recent update to the National Wetlands Inventory (NWI) for Baldwin and Mobile Counties.

Digital habitat maps were derived and generated from interpretation of aerial photography that was scanned and rectified into 70 digital ortho-photo quarter quads at 1:24,000 scale. Field checking was accomplished by USGS NWRC personnel in 2004 and 2005 and further NWI review and verification was provided by the U.S. Fish and Wildlife Service. Wetlands were classified using the wetland classification scheme of Cowardin, et. al. Uplands were classified according to an NWRC-



2001/2002

| 2001/2002 Habitat Analysis |        |
|----------------------------|--------|
| Class                      | Acres  |
| Open Water-Salt            | 21,094 |
| Salt Marsh                 | 7,020  |
| Open Water-Fresh           | 403    |
| Fresh Marsh                | 338    |
| Mud Flats                  | 3,209  |
| Submerged Aquatics         | 2,115  |
| Wetland Forested           | 5,413  |
| Wetland Scrub/Shrub        | 1,259  |
| Upland Forested            | 8,487  |
| Upland Scrub/Shrub         | 229    |
| Urban                      | 24,518 |
| Agriculture/Rangeland      | 4,055  |
| Total                      | 81,978 |



1950s

| 1950s Habitat Analysis |        |
|------------------------|--------|
| Class                  | Acres  |
| Open Water-Salt        | 28,800 |
| Salt Marsh             | 13,200 |
| Open Water-Fresh       | 118    |
| Fresh Marsh            | 78     |
| Mud Flats              | 443    |
| Submerged Aquatics     | 38     |
| Wetland Forested       | 5,307  |
| Wetland Scrub/Shrub    | 455    |
| Upland Forested        | 18,898 |
| Upland Scrub/Shrub     | 0      |
| Urban                  | 16,013 |
| Agriculture/Rangeland  | 4,000  |
| Total                  | 81,981 |

customized classification scheme which can be cross referenced to that of Anderson, et. al. The maps provide exceptional resolution and include all habitats that exceed one square meter in area.

As a follow-on to this comprehensive baseline habitat and wetland mapping project, these data will be compared to previously collected data from 1955, 1979, and 1988 (where such data is available for the two counties) to better characterize status and trends of habitats in coastal Alabama. An accuracy assessment and status and trends report will result from this comparison.

Products from this mapping project provide long needed geographic information system layers for Alabama's coastal counties. Mobile County shape files and polygon data are contained in two CD-ROMs titled "Mobile County 2002 NWI Habitat Data". The first CD - Mobile\_2002 coverage - contains the Mobile County data as a single complete coverage of clipped quads and a merged data set for ease of use. The second

- Mobile\_01\_Clippped 24K - contains data for each of the individual quads. Color, infrared photographic images in Digital Ortho quarter quad format for Mobile County are also available from the MBNEP. Baldwin County data (including images) were included in one DVD titled "Baldwin County NWI Mapping Basemaps" and one CD-Rom titled "Baldwin County 2001 National Wetlands Inventory Habitat Data". All of this data has been condensed into a single DVD, which the Mobile Bay NEP will provide for public use upon request.

As part of Gulf Alliance deliberations, resource managers throughout the five Gulf states have recognized a critical need for baseline data regarding coastal habitat type and extent. This mapping project provides the first step towards filling that need for Alabama's coastal counties and a powerful tool for resource managers, engineers, and developers.

As Hal Borland astutely said in 1964, "The most unhappy thing about conservation is that it is never permanent. Save a priceless woodland or an irreplaceable mountain today, and tomorrow it is threatened from another quarter." Along the Gulf coast we face many threats to our invaluable wetland habitats. Whether changes arise through natural forces like hurricanes or through population growth and migration and resultant coastal development, these maps will provide resource managers, local governments and the community at large with the information necessary for managing these habitats in a sustainable way.

## Living Shorelines as Alternatives to Bulkheading

Continued from page 1

Sediment is presently building from the WADs back towards the shoreline, and oyster density is higher on the WADs than on commercial oyster reefs in Alabama. The WADs also provide habitat for recreational fish as evidenced by the frequency of fisherman in their proximity.

Another example of an exciting living shoreline can be seen along the northwest side of the Pensacola Bay Bridge in downtown Pensacola, Fla. Project Greenshores, winner of a 2004 Gulf Guardian Award, is a partnership effort of the Florida Department of Environmental Protection, the City of Pensacola, local agencies, businesses, volunteers, and grassroots organizations to establish an oyster reef, seagrass bed, and salt marsh within the Pensacola Bay ecosystem. Initially, 20,000 tons of limestone rock and concrete aggregate were placed in mounds offshore. Approximately 16 tons of live oysters were deposited on the



Project Greenshores in Pensacola Bay

rock mounds. Approximately 35,000 cubic yards of clean sand was pumped between the improvised oyster reefs and shoreline to create five intertidal areas, where 35,000 individual cordgrass (*Spartina alterniflora*) shoots were planted. Widgeon grass (*Ruppia maritima*), an indigenous species of SAV, is being planted between the intertidal areas. The result is a highly

visible, accessible, habitat-rich, 12-acre, educational shoreline restoration project which serves as a model alternative to bulkheading or shoreline armoring.

If environmental responsibility isn't enough for waterfront property owners to consider living shorelines, consider simple economics. Cost estimates

for living shoreline development using biologs and planting are \$15-\$20/ linear foot, compared to \$40-\$75/linear foot for bulkheads. Bulkheads have a "life expectancy" of 15-20 years before they fall victim to their own effects. Undisturbed living shorelines promote accretion and may provide benefits to property owners and the ecosystem indefinitely.

## "Grasses in Classes" Expands to Mobile County

By KARA LANKFORD, PROGRAM COORDINATOR, MOBILE BAY NEP

*Grasses in Classes* has expanded to Mobile County, based upon the successful Baldwin County program. The Mobile Bay NEP brought many of the same stakeholders from the Baldwin County program together to establish a *Grasses in Classes* program on the Western Shore of Mobile Bay. Originally established to satisfy a need for seagrasses for restoration efforts along the Baldwin County coast, success on the Eastern Shore stimulated the Mobile Bay NEP to establish a similar program in Mobile County.

Four Mobile County public schools are participating this year. Baker, Satsuma, and Theodore High Schools are growing Smooth Cordgrass (*Spartina alterniflora*) and Black Needlerush (*Juncus roemerianus*). Murphy High School is growing Panic Grass (*Panicum amarum*) and sea oats (*Uniola paniculata*).

Inquiries have been made to the U. S. Fish and Wildlife Service, Dauphin Island Sea Lab, Mobile County Parks, Alabama Coastal Foundation, and Alabama State Lands Division for potential planting locations.

Partners for the Mobile County *Grasses in Classes* program include the Environmental Studies Center, U.S. Fish and Wildlife Service, Dauphin Island Sea Lab, Weeks Bay National Estuarine Research Reserve, Alabama Coastal Foundation, ADCNR- State Lands Division, and Mobile County Parks.

## Gulf of Mexico Marine Debris Mapping Web Site Launched

By SHONDA BORDEN, MISSISSIPPI-ALABAMA SEA GRANT

The NOAA Gulf of Mexico Marine Debris Project recently launched its official project website. In the wake of the 2005 hurricane season, nearshore waters of Mississippi, Alabama, and Louisiana are being surveyed for the purpose of locating and mapping marine debris. This site is an outlet for all information associated with hydrographic survey data identifying risks to commercial fishing and shrimping activities in the Northern Gulf of Mexico coastal zone and provides users with critical information and maps of debris laden survey areas, indicating the geographic position of each debris contact. The Office of Response and Restoration team is also developing an Internet Mapping System interface to deliver debris data and location to users via dynamic, scalable, and easy-to-use web-based maps. This information will be useful to ongoing debris removal efforts being coordinated by state natural resource managers, the U.S. Coast Guard, and the Federal Emergency Management Agency. For more information, visit [www.gulfofmexico.marinedebris.noaa.gov](http://www.gulfofmexico.marinedebris.noaa.gov).

# Prescribed Burns Used to Manage Reserve State Lands

By L.G. ADAMS, WEEKS BAY RESERVE

As many readers are aware, prescribed burning of lands is used as a management technique for lands that have been suppressed from natural fire or to reduce leaf litter avoiding unexpected catastrophic fire. At Weeks Bay Reserve, controlled burning is used to achieve both of these goals. This year, for the first time since the Reserve was designated (1986), two large tracts (Damson and Ogburn Tracts) have been burned with assistance from employees of the State Lands Division.

The Weeks Bay Pitcher Plant Bog has been burned quite frequently over the years. This habitat is fire dependent whereby the herbaceous carnivorous bog plants compete with more woody plants through the ability to survive fire and thrive as a result of the reduced competition. The



*A prescribed burn in progress.*

Kurt G. Wintermeyer Trail with a boardwalk through the bog provides visitors with an up close look at this most interesting coastal resource. Through the efforts of State Lands employees and Reserve volunteers, the goals of the controlled burns are achieved

without damaging assets like the boardwalk itself.

Prescribed burns are a commonly used management tool replacing the natural fires that swept the Gulf Coast habitats in decades past. Such activities maintain and in some cases restore habitats that are so productive in our area and support biodiversity while maintaining

our coastal heritage. Reserve lands incorporated into the burn this year totaled more than 500 acres.

## Marine Resources Division Releases Latest Striped Mullet Assessment

By STEVE HEATH, CHIEF MARINE BIOLOGIST, ADCNR-MARINE RESOURCES DIVISION

The Marine Resources Division of the Alabama Department of Conservation and Natural Resources has completed their latest assessment of Alabama's striped mullet. These findings are based upon data collected from 2001 to 2005 from both fishery dependent and fishery independent sampling. Fishery dependent data are obtained from trip ticket reports from seafood dealers and sampling by Marine Resources Division port agents who visit shops to obtain biological data. The fishery independent data are obtained from experimental nets deployed by biological staff with the Division.

Mullet in Alabama waters migrate offshore in the fall of the year to spawn. While offshore, our stocks mix with the

stocks from adjoining states. Juvenile mullet are distributed into various estuaries by way of wind and currents. After spawning the adults have been shown to return to the estuary from which they came. Therefore it is a reasonable assumption that once mullet enter Alabama waters the fish can be managed as a local stock of fish. Striped mullet in Alabama support two fisheries; a meat component from January-September and a roe component from October-December. Prices for the meat component have been stable and this component is now making up a substantial portion of the total harvest. Roe prices have been declining and that has resulted in a decreased harvest of fish for that market. The current conservation standard for striped mullet is a 30 percent Spawning Potential Ratio (SPR). Based on the current range of estimates of mortality the SPR is close to 30 percent indicating that the proactive approach calls

for an increase in mesh size in both the meat fishery and the roe fishery to protect an increased number of two year old females. Increasing the mesh sizes of the respective fisheries is recommended as an immediate course of action to prevent further over exploitation the stock.

Suggested increases in mesh size were presented to the Conservation Advisory Board at its February meeting. If the Board approves these changes, they will go into effect after the meeting of the Board on March 10, 2007. For further detail, contact Steve Heath at the Gulf Shores office of the Marine Resources Division, 251-968-7576.

# Discovery Day at the Dauphin Island Sea Lab

By LISA YOUNG

Discovery Day, the Sea Lab's Annual Open House, has always been a fun-filled and educational event for the whole family. This year, the Sea Lab is partnering with the National Oceanic and Atmospheric Administration (NOAA) to celebrate NOAA's 200th year of programs. Also this year we'll celebrate Discovery Day by breaking ground on the new Richard C. Shelby Center for Ecosystem-Based Fisheries Management, a National Marine Fisheries Service Building at a ceremony on the North Campus from 9:30-10 a.m.

It all started in 1807 with President Thomas Jefferson's vision to support his fledgling nation's economy by ensuring safe maritime commerce. He accomplished this by creating the Survey of the Coast, the first federal science agency and precursor to NOAA's navigation services. In 2007, NOAA celebrates 200 years of science, service, and stewardship – expanding Jefferson's dream into a realm of unimagined possibilities.

From those humble beginnings 200 years ago, NOAA's impact is now world-wide. Spanning sensors on the bottom of the ocean floor to complex environmental satellites orbiting the Earth – the men and women of NOAA recognize the importance of their work to the American public and our global community. NOAA takes pride in its heritage and you may learn more by taking a moment to visit the Web site ([www.celebrating200years.noaa.gov](http://www.celebrating200years.noaa.gov)) that chronicles the agency's beginnings and visions of the future.

So in celebration of the coast, our history with it, and all of its treasures – join us for Discovery Day at the DISL, Saturday, April 14, from 10 a.m. to 2 p.m. This fun-filled family event includes a variety of environmentally-themed children's activities; an Open House at the Research Facilities of the DISL where the public meets the scientists and graduate students to see their ongoing research projects; and reduced admission to the Estuarium (free for kids, compliments of NOAA) the aquarium at the DISL and a designated Coastal

America Coastal Ecosystem Learning Center.

Admission is free (except for reduced Estuarium admission for adults), and educational fun is plentiful at this popular event.

Local agencies expected to participate this year include: Alabama Department of Conservation and National Resources (ADCNR) Lands Division, Coastal Section; ADCNR Marine Resources Division; Auburn University Marine Extension and Research Center; Azalea Trail Maids; DISL Foundation; City of Mobile; DISL Graduate Student Organization; Environmental Studies Center; Grand Bay National Estuarine Research Reserve; Home Depot; Mississippi-Alabama Sea Grant Consortium; Mobile Bay National Estuary Program; Mobile County Emergency Management Agency; National Weather Service; Town of Dauphin Island; United States Coast Guard, Station Dauphin Island; and Weeks Bay National Estuarine Research Reserve.

## Habitat Restoration Efforts of the Wolf Bay Watershed Watch

By STAN MAHONEY,  
WOLF BAY WATERSHED WATCH

**Perennial Plant Cultivation and Habitat Restoration.** Just over a year ago, the Wolf Bay Watershed Watch built a greenhouse behind the Mifflin Community Center for growing native perennial plants as both a funding source and habitat restoration. To date, thousands of plants have been grown, donated, and sold by a relatively small group of volunteers. Moreover, the greenhouse has served as a catalyst for educational efforts in cooperation with local extension agents. Short informative presentations have been given on turf grasses, citrus, and wetlands

restoration. Through the efforts of two Baldwin County Master Gardeners, Tom Dukes and Jessy Mahoney, the staff has grown to include 10 volunteers with two individuals currently interning in the Master Gardner program. This group has provided plants to the Gulf State Park, the Orange Beach Canoe Trail, the Sea, Sand and Stars Environmental Education Center in Orange Beach, and the Elberta Elementary School Butterfly garden project. Non-profit groups needing native perennial plants for restoration projects should contact Tom Dukes at 986-8448, or Jessy Mahoney at 955-1527.

**Invasive Species.** Wolf Bay Watershed Watch also maintains a keen interest in

facilitating training and obtaining resources for identification and control of invasive plants, particularly those which have a direct impact on our watershed. Plans for training and handbooks which a mid-states group hoped to have available this month have been delayed until fall. However, mapping and volunteer training are principal topics in the regional conference of the Southeast Pest Plant Council taking place in late March. We are hoping for some new impetus there so that we may obtain training and materials for interested members. Anyone wishing to contribute to our invasive species effort should contact Homer Singleton at 943-8945.

# Current events

## March

**March 24**

**What:** Derelict Crab Trap Removal

**Where:** Mobile Bay Causeway

**Contact:** Kara Lankford, (251) 431-6409

**March 30-31 8:00 a.m.- 4:00 p.m.**

**What:** Wolf Bay Watershed Watch Trash, Treasures, and Plant Sale

**Where:** Miflin Community Center on Baldwin Co. Road 20 East

## April

**April 13-15**

**What:** Delta Blues Fest at 5 Rivers

Live music at 5 Rivers and participating causeway restaurants.

**Where:** 5 Rivers Delta Center

**Contact:** Hank Burch, (251) 625-0814

**April 14**

**What:** Discovery Day

**Where:** Dauphin Island Sea Lab

**Contact:** (251) 861-8710

**April 21**

**What:** Bay Area Earth Fest

Live music, exhibits, Bay Rivers Art Guild Art Show, raptors and much more.

**Where:** 5 Rivers Delta Center

**Contact:** Angela@joinacf.org or (251) 990-6002

**April 21**

**What:** Coastal Kids Quiz

**Where:** Daphne United Methodist Church

## May

**May 3**

**What:** Cocktails with the Critters

**Where:** 5 Rivers Delta Center

**Contact:** (251) 861-8710

**May 4**

**What:** Washington County

**Groundwater Festival**

**Where:** Washington County

**Contact:** Angela@joinacf.org or

(251) 990-6002

**May 4 6-8:00 p.m.**

**What:** Water Planet – A Look Beneath the Surface – Seas of Africa and a Journey Across the Pacific

**Where:** Spring Hill College, Byrne Memorial Hall

**Contact:** (251) 861-8710

## June

**June 2**

**What:** The Springhill Medical Center Grandman Triathlon

**Where:** Fairhope, Alabama

**Contact:** www.thegrandman.com

## Alabama current connection

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*Alabama Current Connection*

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The editorial staff reserves the right to edit submissions for content and grammar.

## Mobile Bay NEP Welcomes Tom Herder to the Team

Tom Herder recently joined the Mobile Bay National Estuary Program as its Science Communicator. With bachelors and masters degrees in Marine Biology from the University of North Carolina at Wilmington and coursework completed towards a Ph.D. in Zoology from the University of Florida, Tom brings a solid scientific background to the NEP staff. Since leaving graduate school in 1986, he has been a teacher and competitive swim coach with positions in St. Augustine and Lake County, FL, Sioux Falls, SD, Overland Park, KS, and finally here in Mobile. His responsibilities on the NEP staff include communication of scientific data to the community, development of an indicator program to determine environmental status and trends, and management of the MBNEP web site. Tom lives in midtown with his wife, Rhoda (a nurse at Infirmary West), two Australian Shepherd dogs, three parrots, and several fish.



# Alabama current connection

Dauphin Island Sea Lab  
Marine Environmental Science Consortium  
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Dauphin Island, Alabama 36528

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## Stow It, Don't Throw It

By AMY KING, ADCNR - STATE LANDS  
DIVISION

Do you like to fish? Do you like to boat, canoe or kayak? Or do you simply like to spend your time on the water? Then the Clean Boater's and Angler's Pledge is for you.

The Clean Boater's and Angler's Pledge is a voluntary commitment by boaters and anglers to protect the health of Alabama waters from man-made debris. Debris is trash in the water. Some common debris items are cigarette filters, fishing line, aluminum cans, ropes and packaging materials. If not removed from the water, all debris can cause damage to the environment.

By taking the pledge to be a clean boater or angler you recognize that a pollution-free aquatic environment is essential to the health and productivity of coastal fisheries and high-quality recreational fishing and boating experiences.

### "As a Clean Boater or Angler, I Pledge..."

- ★ To transport to shore, for proper disposal, all trash generated aboard my boat or along the shore, especially cigarette filters, plastic, glass and metal.
- ★ To make every effort to prevent accidental loss of food and drink containers, fishing gear and other debris from my boat or along shorelines.
- ★ To retrieve debris floating in navigable waters or along the shoreline and dispose of it properly onshore.
- ★ To encourage fellow boaters and anglers to take pride in Alabama waters and to keep Alabama beautiful."

For a free brochure and more information on how to take the Clean Boater's and Angler's Pledge, call the State Lands Division, Coastal Section at 251-621-1216, or visit [www.outdooralabama.com](http://www.outdooralabama.com).

