

# Alabama current connection

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## Good Things Come to Those Who Plan

By ROBERTA SWANN, DIRECTOR, AND TOM HERDER, WATERSHED COORDINATOR,  
MOBILE BAY NATIONAL ESTUARY PROGRAM

**I**n 2006, concern over dramatic stream degradation, erosion in D'Olive watershed, excessive sedimentation in Lake Forest, and turbidity in D'Olive and Mobile bays catalyzed a group of concerned citizens, agency representatives, and elected officials to action. This group, a.k.a. the D'Olive Watershed Work Group, approached the Mobile Bay National Estuary Program (MBNEP) seeking assistance in "stopping this dirt from bleeding into area waterways."

MBNEP agreed, facilitating the group and mobilizing the funding to undertake two important efforts: a 2007 sediment loading analysis by the Geological Survey of Alabama and a 2010 comprehensive watershed management plan (the Plan) led by Thompson Engineering.

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# Coastal Corner

By PHILLIP HINSLEY, COASTAL SECTION CHIEF, ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES,  
STATE LANDS DIVISION AND LEE YOKEL, ENVIRONMENTAL EDUCATION COORDINATOR,  
GULF OF MEXICO ALLIANCE, DAUPHIN ISLAND SEA LAB

## Vacated Vessels Endanger Dog River Waterway

**F**or decades, a common practice for boat owners has been to moor their vessels in Dog River or tie them up to private property ahead of an approaching storm. Unknown to many, the practice of leaving your boat anchored and unattended or tied to private property is illegal.

These boats frequently break their mooring and are left adrift in area waterways or beached on private property. Abandoned vessels are an eye-sore, and when left to drift, can become a navigational hazard. Property owners are left with no resources to fix damage that may occur, and boat

owners face possible negated insurance policies. More importantly, these vessels also impact bank erosion, marsh growth, and submerged grasses, and, in more serious situations, may introduce hazardous materials into the environment. This degradation of our natural habitats increases impacts from storms and flooding by removing the benefits that a healthy ecosystem provides.

Dauphin Island Sea Lab, on behalf of Dog River Clearwater Revival (DRCR), received a National Oceanic and Atmospheric Administration (NOAA) Marine Debris grant to help remove derelict

vessels from the Dog River Watershed to restore coastal and riparian habitat of Dog River in Alabama. They will also implement a public awareness campaign on proper vessel mooring during storms. These efforts are one step in cleaning up our water

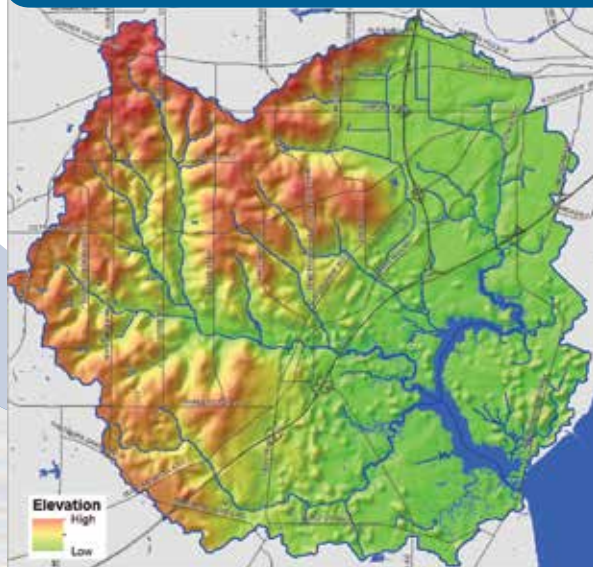
resources and helping build the resiliency of the Dog River community and environment.

“Safe Harbor” is a complicated problem in coastal Alabama. Some marina contracts require owners to remove their

boats from the slips prior to a storm, but there are no legally designated locations

*Abandoned vessels are an eye-sore and when left to drift, can become a navigational hazard.*

### Dog River Watershed



for moored vessels. Additionally, Alabama does not have a formal abandoned vessel definition or law, and the responsibility for abandoned vessels is scattered among several agencies. The U.S. Coast Guard maintains a regional list of derelict vessels. However, they only have the authority to remove hazardous materials such as batteries and gasoline but cannot remove the boat. The U.S. Army Corps of Engineers, Coast Guard, and State Port Authority may address navigation problems caused by abandoned boats, but only in federally authorized channels. The only time that vessels outside federal channels were addressed in Alabama was after a State of Emergency was declared following Hurricanes Ivan and Katrina. In these cases, the Corps of Engineers and state partners were allowed removal on a limited basis. In 2013, the State Legislature passed House Bill 204 and Act 2013-348, which prohibits obstruction of navigation on public waters by a floating pier, barge or vessel. Via these two acts, Marine Police or the Department of Conservation may remove derelict vessels. However, there are no dedicated state funds that allows them to perform this work.

Kitty McAleer, DRCR member, has been patiently following the derelict vessel problem in Dog River since August 2005, after Hurricane Katrina left a huge boat washed up in her driveway blocking access to her home. Besides Ms. McAleer's case, more than two dozen sailboats, skiffs, and other watercraft have been left to degrade and sink in the popular Dog River Watershed. DRCR mapped the debris in the area and current board member, Nick Matranga, along with long time Dog River resident David DeLaney, spent much time researching the problem and engaging with the Department of Conservation. Local citizen involvement like this is what helped set the stage for the Department of Conservation's support of the project.

The project is multi-faceted involving research, derelict removal, restoration, and an outreach component to help educate area boat owners. This funding is a one-time opportunity to clean up the derelict vessels. DeLaney and Matranga, however, both envision serious dialog that could

result in positive changes for "Safe Harbor" efforts to include alternatives to safely anchor boats when severe weather happens. These changes will enable our communities to be more resilient after hazardous events, thus reducing negative impacts on human health, the environment, and the economy.

## Plan Ahead

**Tropical weather on the Gulf Coast is a real threat. Even the least severe Category 1 hurricane can have devastating effects in today's crowded harbors. So, as you prep your boat for the season, take the time to prepare a hurricane plan.**

- ▶ **Review options – While the best thing is to get your vessel out of the water, seeking a safe harbor is the next best bet.**
- ▶ **Evaluate adequacy of current location e.g. Check mooring maintenance**
- ▶ **Where's safest, in or out of the water?**
- ▶ **What equipment is needed on board?**

**Remember, mooring your vessel adjacent to property you do not own is illegal.**





## The Mobile Bay Estuary and Coastal Population Growth

*Using a watershed approach to keep what we've got*

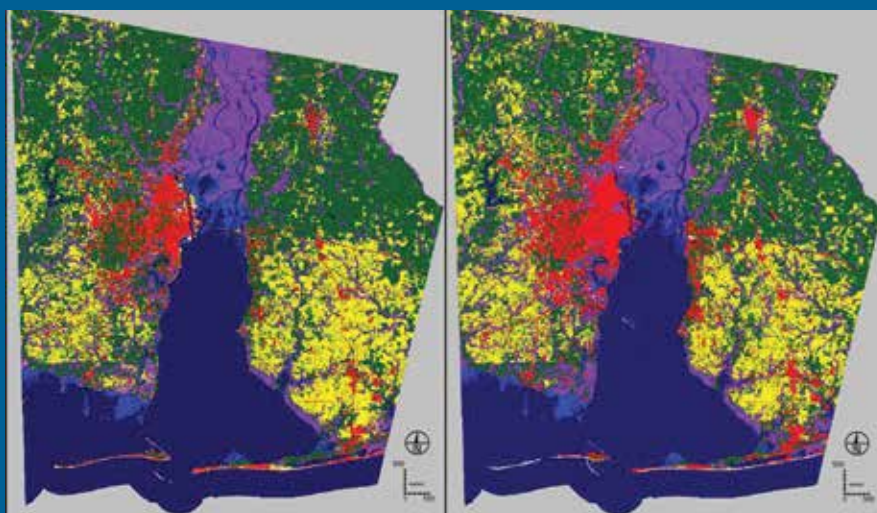
**T**he Mobile Bay Watershed drains three-quarters of the State of Alabama, much of Georgia and Mississippi and even portions of Tennessee, making it the sixth largest basin by area with the fourth highest freshwater inflow in all of North America. At its southern terminus lies the Mobile-Tensaw Delta where all that fresh water mixes with salt water from the Gulf to form the rich, brackish waters of the Mobile Bay estuary. Its network of habitats supports the greatest diversity of species in any state east of the Mississippi River. Alabama's two coastal counties, Baldwin and Mobile, support 337 species of fish, 126 species of reptiles and amphibians, 355 species of birds and 49 species of

mammals. These habitats also support thriving shipping, tourism and seafood industries and an unparalleled quality of life for over 600,000 humans. However, the influx of people into coastal Alabama to enjoy our abundant natural resources has become the greatest threat to our way of life.

Some of the most important habitats supporting our great species diversity have suffered the most from human activities. While natural stressors like erosion, storms, droughts, fire and sea level rise underlie some habitat loss, it is what humans do that lead to the greatest losses. With over half (53%) of the nation's population drawn to live in coastal counties that make up only 17% of the total land area, increasing urbanization and conversion of natural landscapes threaten those ecological treasures, the

services and features they provide us, and especially the quality of the waters that are our greatest asset.

Understanding how natural landscapes are changed to accommodate human activities and how those changes affect habitats is necessary if we are to sustain the things we appreciate as we continue to grow. In 2008, the Mobile Bay National Estuary Program joined forces with the National Aeronautics and Space Administration (NASA) to analyze land use/land cover and percentage of impervious surface changes around Mobile Bay from 1974 through 2008. These studies use satellite imagery from different time periods to determine where and how land is used across our area and the patterns of land conversion that accompany development and urbanization.



Between 1974 (l) and 2008 (r), urban areas in Baldwin and Mobile counties increased from 5.59% to 8.88% of the total study area, reflecting an overall 59%, or 47,692 acre, gain in urbanization. With urban development increasing, upland forested areas decreased at an even faster rate from 34.05% to 28.07% of the total study area, reflecting an overall 17.6%, or 86,599 acre, loss.



The primary feature of development that impacts water quality is the increase in impervious surfaces – like buildings and pavement – that prevent the infiltration of rainwater back into the ground. The following diagram contrasts where rainwater ends up in a forested landscape as compared to an urban setting with 75% impervious surface.

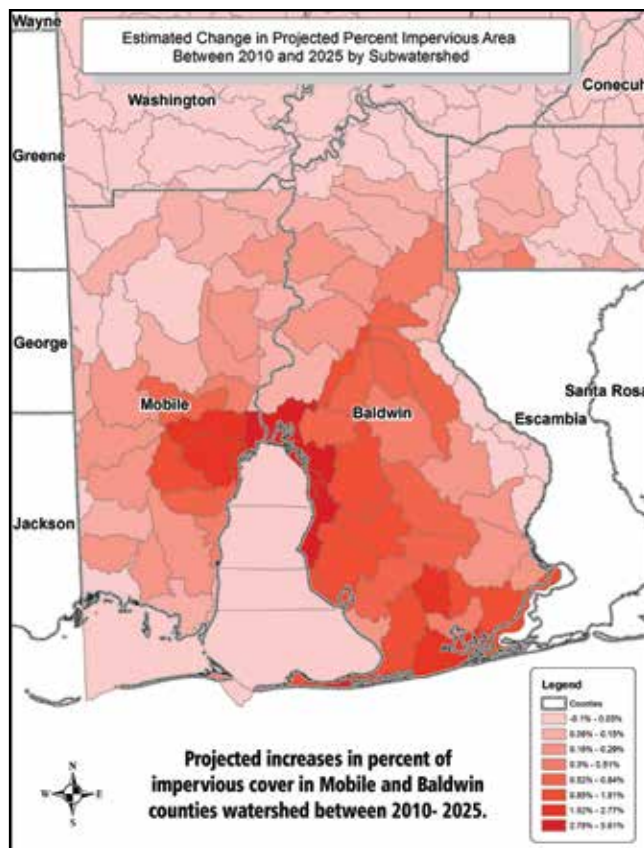
Instead of soaking in, water falling on impervious surfaces accumulates, running downhill with speed and force that erodes stream banks, causes sedimentation and carries other pollution into coastal waters. A typical city block generates more than five times more runoff than a woodland area of the same size.

Analyses like the one performed by NASA reveal the patterns by which the estuary has been urbanized over time.

The first area to exceed 25% impervious cover, the “tipping point” beyond which a drainage basin’s receiving waters are substantially degraded, was the City of Mobile, where, by 2000, its three major watersheds, Upper Dog River, Lower Dog River and Halls Mill, had each exceeded that threshold. Across the Bay in Baldwin County, areas around Daphne and Spanish Fort, Fairhope, Foley, Gulf Shores and Orange Beach are the current “hot spots” of impervious cover.

What is a watershed? John Wesley Powell, scientist geographer, put it best when he said that a watershed is “that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community.”

Within the D'Olive Watershed, a combination of rolling topography, highly erodible soils, five-and-a-half-feet of average annual rainfall and impervious cover from “community growth” have created massive stream bank erosion and sedimentation or “bleeding”.





# Building a Resilient Watershed in Your Own Backyard

By LESLIE LASSITTER GAHAGAN, ENVIRONMENTAL MANAGER, CITY OF FOLEY AND  
HOMER SINGLETON, WATER QUALITY CHAIR, WOLF BAY WATERSHED WATCH AND  
DEBI FOSTER, COMMUNICATIONS COORDINATOR, MOBILE BAY NATIONAL ESTUARY PROGRAM

## Who is Wolf Bay Watershed Watch?

The Wolf Bay Watershed Watch (WBWW) is a grassroots citizen's advocacy organization whose mission is to protect and preserve the natural resources of the Wolf Bay Watershed.

Wolf Bay is located in southwest Alabama in Baldwin County. The Bay is connected to the greater Perdido Bay and has several tributaries including Wolf, Sandy, Miflin, and Hammock Creeks. The watershed of Wolf Bay covers about 71,700 acres.

Take a look at their website for more information: <http://www.wolfbaywatch.org>. Each of us can make a difference. Together we can make a real change for the better and Create a Clean Water Future.



**H**ow wonderful would it be if you could reduce pollution and clean our local waterways right from your own backyard? Well, now you can.

A new program is being offered through **Wolf Bay Watershed Watch** that we hope will become a **coastal standard** throughout all watersheds in our community. **Watershed Wise Habitat** is designed to raise awareness and educate residents on the importance of protecting the Wolf Bay Watershed through wise gardening practices and environmentally friendly landscape techniques.

Rain falls (and lots of it!) throughout all habitats and areas of our watersheds. As it drains off the land, it carries with it harmful substances that we place in the environment and deposits them in the nearest bodies of water. The **Watershed Wise Habitat** program makes it easy for you to

participate and create a positive impact on our rivers, streams, and bays. We need to be part of the solution, or we are part of the problem.

This is not a program that has to be completed in a day, nor do you have to hire costly experts. Help is available from local Master Gardeners, county extension agents or internet websites. The **Watershed**

**Wise Habitat** program recommends a variety of practices designed to reduce human impact on water quality. These practices include establishing riparian buffers to protect streams from siltation and erosion, demonstrating effective techniques to reduce stormwater runoff, providing education on safe and

responsible application of chemical pesticides and fertilizers, and encouraging sustainable gardening and landscape practices. While all of the recommended practices can improve the health of the watershed, the broad

*"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."*

*Margaret Mead*



variety of practices allows participants to select those that best apply to their situation.

Each practice in the program is assigned a point value. As an incentive to implement these practices, homeowners and businesses must obtain a minimum point total to meet the criteria to be recognized. For a small fee, Wolf Bay Watershed Watch can provide a sign designating the property as a **Watershed Wise Habitat**. Fill out the checklist on page 8 to see if you qualify as a “Watershed Wise” gardener.

While you’re at it...why not create a **Certified Wildlife Habitat** too?

If your corner of the world is providing places for wildlife to eat, drink clean water, rest and raise their young, then you are already on your way to becoming a **Certified Wildlife Habitat**. Started by the National Wildlife Federation in the ’70s, the program aims to educate people on the benefits of creating and restoring natural landscapes while helping reverse alarming wildlife trends.

The practice of converting once forested or rural lands into suburban development has become common place. What were once acres of flowering, fruiting, or decaying plant material used by wildlife for food and shelter, have become neat and orderly yards planted with exotic ornamental plants raised in greenhouses thousands of miles away. Not accustomed to local conditions, these plants frequently require chemicals and supplemental water to maintain lushness. This common use of “conventional” landscaping and continued conversion of natural areas into such tightly controlled landscapes has resulted in the drastic reduction of once plentiful habitats and the disappearance of many species of wildlife dependent upon them.

The **Certified Wildlife Habitat** program (formerly Backyard Wildlife Habitat) encourages people to landscape and garden in a more sustainable and natural way. The volunteer program focuses on native species better suited to surrounding conditions

with emphasis placed on providing fresh water and a safe environment. Since the program began, thousands of urban, suburban, and rural sites have become **Certified Wildlife Habitat** providing food and shelter to local wildlife.

Whether you have a tiny postage stamp-sized yard, enclosed balcony and courtyards, or numerous acres – the size of your yard doesn’t matter. The point is that virtually any piece of property can be a wildlife habitat. Before continuing

to maintain a sterile, manicured lawn, think again about the wildlife that lives nearby. Consider planting native fruit-bearing and flowering shrubs, construct a water garden, or at least install a bird bath and bird house or two. The possibilities are endless for what you can do in your surroundings to help create a **Certified Wildlife Habitat**. For more ideas and to see how to get started, visit the

National Wildlife Federation’s website for details at [www.nwf.org](http://www.nwf.org) or your local Cooperative Extension System and begin making a difference today!



## What Exactly is a Watershed?

A watershed is defined as the area of land that drains to a particular stream or water body. Each stream has its own watershed. Topography is the key element determining this area of land. The boundary of a watershed is defined by the highest elevations that surround the stream. A drop of water that falls outside of that boundary will drain to a different watershed.

Watersheds come in all shapes and sizes. They cross city, county, state, and national boundaries. Large watersheds are made up of many smaller sub-watersheds. In the continental U.S., there are 2,110 watersheds large enough to be “coded” by the U.S. Geological Survey.

The Mobile Bay Watershed covers approximately 65% of the state of Alabama and portions of Mississippi, Georgia, and Tennessee. Serving a drainage system for 43,662 square miles, the Mobile Bay Watershed is the sixth largest in the nation by area and at 62,000 cubic feet per second on average it has the fourth largest freshwater inflow on the North America continent.



Use of native plants like those in this butterfly garden is one of the recommendations included in the Watershed Wise Habitat program.

# "Watershed Wise" Checklist

## Storm Water Runoff

- ☐ Direct down spouts and gutters to drain onto the lawn, plant beds, rain gardens or rain barrels.
- ☐ Plant ground covers on thinly vegetated areas, under trees or on slopes to decrease erosion.
- ☐ Use porous pavers, brick or paving stones or other pervious surfaces rather than concrete or asphalt paving.
- ☐ Avoid soil compaction; restore and enhance soil. Till and amend compacted soil with compost.
- ☐ Plant mulched or raised beds containing trees, shrubs, or ground covers along low edges of property to catch water runoff.
- ☐ Install rain barrels on downspouts.
- ☐ Install a rain garden where runoff can be caught from roofs and hard surfaces.

## Protect the Waterfront

- ☐ Establish border of low maintenance native vegetation adjacent to all bodies of water--in front of bulkhead if you have one.
- ☐ Use native grasses with deep root systems to hold hillsides along waterways.
- ☐ Do not fertilize within 25 feet of any waterway or your well.
- ☐ Keep grass clippings and other yard waste and animal waste away from all bodies of water.
- ☐ Test your soil every 3 to 5 years and fertilize according to soil test recommendations.
- ☐ Minimize the need for synthetic lawn fertilizers by using a mulching blade on your mower and leaving grass clippings on the lawn.
- ☐ Avoid spilling/leaving granular fertilizer on paved surfaces.

## Integrated Pest Management

- ☐ Don't use pesticides at all.
- ☐ Avoid routine application of pesticides.
- ☐ Identify three beneficial insects that provide natural control of harmful pests.
- ☐ Use non-pesticide tools such as attractants, barriers and hand-picking insects.
- ☐ Hand-pull weeds when possible.
- ☐ Choose resistant plant varieties to reduce need for pesticides.
- ☐ Attract 'beneficials' to your garden by planting a variety of native plants.

## Mulch and Recycle Yard Waste

- ☐ Maintain no more than 2 to 3 inch layer of organic mulch over tree roots, shrubs and in beds.
- ☐ Create self-mulching areas under trees and shrubs.
- ☐ Use by-product mulches such as shredded hardwood, pine bark or pine bark nuggets. Avoid dyed products.
- ☐ Create and maintain a compost pile with collected clippings, leaves and kitchen scraps (no animal products).

## Plant Wisely

- ☐ Replace problem-prone plants with better adapted, noninvasive species.
- ☐ Incorporate a variety of native plants into your landscape.
- ☐ If lawn is necessary, plant drought-tolerant grass.
- ☐ Use trees/shrubs to shade southern and western walls of home and air conditioner.
- ☐ Educate yourself about invasives and avoid planting in your yard.

## Encourage Wildlife

- ☐ Provide and maintain a water source.
- ☐ Provide and maintain wildlife shelters such as birdhouse, bat house, dead tree, woodpile.
- ☐ Add plants that attract butterflies and other pollinators.
- ☐ Include native trees, shrubs and perennials.

## Free Landscape of Invasive Species

- ☐ Remove all Chinese Tallow (Popcorn) trees.
- ☐ Remove Japanese Climbing Fern.
- ☐ Remove Cogon Grass (dig deep to remove roots).
- ☐ Remove invasive Chinese Privet.
- ☐ Check for invasive species yearly and remove.

## Are You "Watershed Wise"?

*Complete this partial checklist to see...and start today to Create a Clean Water Future!*

**0-10 points:** Get your work gloves and boots on and get a little dirt on your hands.

**11-20 points:** Tell your neighbors you are "Watershed Wise"!...and ask "Why aren't you?"

**21-30 points:** Great job. On your way to becoming a Master Gardener!

**31-39 points:** The environment and local wildlife think you are a Rock Star!!!

Visit [www.wolfbaywatershedwatch.org](http://www.wolfbaywatershedwatch.org) to view the complete checklist.



The sediment analysis and subsequent plan revealed that four factors – extreme and rolling topography, highly erodible soils, over five feet of hard rainfall annually, and growing areas of impervious cover – had created an almost “perfect storm” of stormwater runoff and erosion in this watershed.

The Plan included descriptions of watershed conditions and problems, primarily that extreme volumes and velocities of stormwater runoff from hardened urban landscapes had intensified stream instability and contributed to high sediment loads. It documented almost 23 miles of watershed streams, including two miles already substantially degraded, four miles currently being degraded, and six miles with acute potential for future degradation. Recommendations were presented for repairing immediate problems, strengthening regulatory controls, and restoring watershed hydrology. Conforming to the EPA’s nine key elements of watershed planning, the Plan also “opened doors” to federal funding to repair a severely degraded tributary to Joe’s Branch.

With rapid stream bank erosion and head-cutting, the impact of this tributary just west of Westminster Village property in Spanish Fort was destroying downstream wetlands and delivering tons of sediment to the D’Olive Bay. Its condition was so severe that it threatened adjacent Highway 31. The Alabama Department of Transportation (ALDOT) offered to invest \$200K of State funding to match federal contributions in support of installing management measures that might bring back some ecological function to the system. With those dollars in hand, MBNEP, in partnership with Geological Survey of Alabama (GSA), ALDOT, and the Alabama Department of Conservation and Natural Resources, applied for an Alabama Department of Environmental Management (ADEM) Section 319 grant to restore this degraded tributary. With \$685K of federal funds awarded by ADEM, MBNEP contracted with Thompson Engineering to design a 1,000-foot step pool conveyance, with over thirty boulder check dams overlying a cobbled, permeable sand and sawdust matrix, creating energy dissipating pools that promoted infiltration. This project was featured in the Fall 2011 Current Connection as the “kick-off” to

implementation of the D’Olive Watershed Plan ([http://www.mobilebaynep.com/images/uploads/library/AL-CurrentConnections-Fall\\_2011.pdf](http://www.mobilebaynep.com/images/uploads/library/AL-CurrentConnections-Fall_2011.pdf)). Sand was mined from downstream wetlands that were subsequently also restored. The project, completed in 2013, provided a template for restoration in this challenging landscape, with miles of stream segments still in need of restoration and a Watershed Management Plan providing prioritized recommendations for further restoration.



Meanwhile in 2013, a U.S. District Court approved two plea agreements resolving the criminal cases against BP and Transocean which arose from the 2010 Deepwater Horizon oil spill. The agreements direct a total of \$2.544 billion to the National Fish and Wildlife Foundation (NFWF) to fund projects benefiting the natural resources of the Gulf Coast that were impacted by the spill.

Over the next five years, NFWF’s newly established Gulf Environmental Benefit Fund (GEBF) will receive a total of \$1.272 billion for barrier island and river diversion projects in Louisiana, \$356 million each for natural resource projects in Alabama, Florida, Mississippi and \$203 million for similar projects in Texas.

When the State sought “shovel-ready” projects that qualified for funding under the NFWF GEBF, MBNEP recommended more comprehensive restoration in the D’Olive Watershed to stem the habitat-degrading siltation resulting from chronic streambank erosion and blamed for an over-

70% decrease in Mobile Bay submerged aquatic vegetation. NFWF and the State saw the wisdom of this investment and in November 2013, announced that \$6.7 million would be devoted towards further restoration efforts in the D’Olive Watershed to “stop the bleeding.”

NFWF and the State sought balance and considered another project proposal from MBNEP to address a Mobile County watershed more in need of conservation than restoration – the Fowl River Watershed. On the tail of a recently completed shoreline restoration project on Mon Louis Island, MBNEP recognized the need to restore the vulnerable northern tip of the island. Adjacent to and south of the mouth of East Fowl River, this highly eroded area, which contains productive wetlands restored by the Alabama Coastal Foundation in 2005, has become extremely vulnerable to a tropical weather-related breach that could intensify threats to habitat and water quality upstream. MBNEP proposed an emergency restoration of Mon Louis Island’s tip that would employ dredge material to rebuild the shoreline and create additional acreage of wetlands. This project also includes a GSA sediment analysis to better understand problems of upstream erosion and a watershed plan that analyzes current conditions, projects future changes related to growth and development, and recommends management measures to conserve and protect this relatively healthy watershed. NFWF and the State devoted \$2.05 million to fund this project.

Three projects were included in the first round of NFWF funding: Comprehensive restoration of the D’Olive Watershed; restoration, sediment loading analysis and watershed planning for the Fowl River Watershed; and restoration and enhancement of oyster reefs in Alabama that will restore 600 acres of oyster reefs in Mobile Bay, Mississippi Sound and Bon Secour Bay by enhancing the quantity and quality of cultch material currently available upon existing oyster reefs and potential new reef sites.

Dollar-wise, the D’Olive restoration was the largest project funded by NFWF (not including federally authorized activities ongoing in Louisiana). Truly this accomplishment is a testament to the value of cooperation, collaboration, and a well thought out plan of action.



# Assessing Resilience

## *Using the Community Resilience Index*

By MIKE SHELTON, TRAINING AND WATERSHED PROGRAM COORDINATOR, WEEKS BAY NATIONAL ESTUARINE RESEARCH RESERVE,  
ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, STATE LANDS DIVISION

**F**or coastal communities, “resilience” is the ability to prepare, respond, and recover from disasters. Over the last decade, the Gulf Coast has experienced both natural and technological disasters. In either case, a community needs to know how resilient it is or can be. It needs to assess challenges in a nonjudgemental way and to identify things the community does well or would like to do better. The Coastal Resilience Index, or CRI, is a tool communities can use to

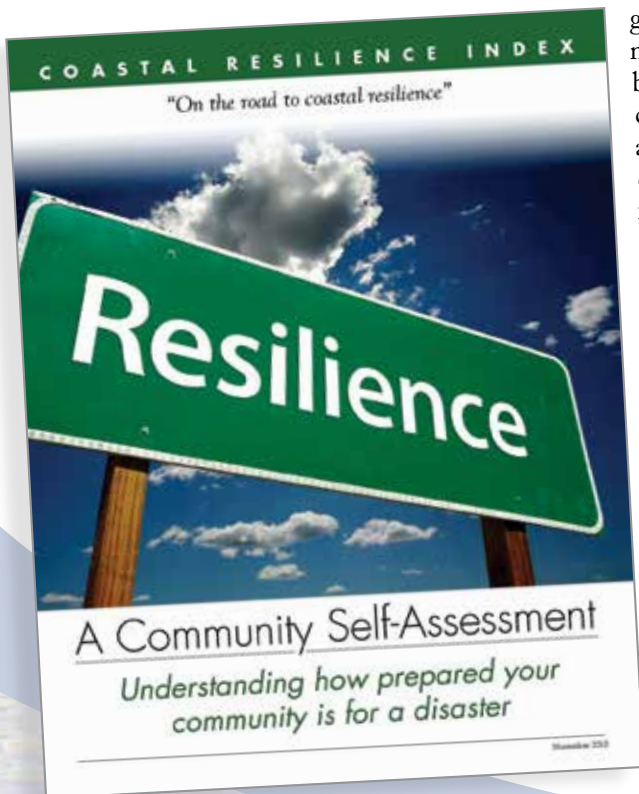
examine the many elements that increase resilience. A large team of dedicated professionals guided by Gulf of Mexico Sea Grant Programs, the Gulf of Mexico Alliance, and the National Oceanic and Atmospheric Administration developed CRI. Cities in all five Gulf States have tested and refined the tool.

Coastal communities are not handed the CRI and told to go at it without help. Gulf Sea Grant Programs trained qualified partners to assist cities in conducting the CRI and follow-up actions identified in the process. How does the CRI process work? CRI begins when a community works with a trained facilitator to identify a team of

community leaders from local government, emergency management, utilities, area businesses, civic organizations and church groups. Since response and recovery involve the entire community, leaders from many facets of community life are included in the CRI team. The team meets with the facilitator and assesses resilience based on six categories in the CRI: 1) critical facilities, 2) transportation, 3) community planning, 4) measures already taken to reduce damage, 5) business plans, and 6) social networks. The team examines how different elements of the six categories survived the worst storm in recent memory and would fare in a future storm that is even worse. The team assesses elements like the effects of flooding on evacuation routes, downed

trees on roads, and power outages in key areas from City Hall to the local hospital. They answer questions about the preparedness of businesses and the speed at which they can resume operation. The CRI includes questions about integration of faith-based groups in recovery and about communication with non-English speaking populations. At the end of the assessment, a score is calculated. Typically, results are revisited about a year later to assess any additional needs. Regardless of the resilience score, communities can address identified challenges through partnerships, training, education, and other assistance.

In response to their CRI assessment, communities have improved critical records storage, tree removal plans, and generator maintenance programs. Communities have explored entering the Community Rating System, a program that can help residents save money on flood insurance. A Florida community developed a survey for local businesses to assess their resilience and help them create disaster plans. Communities in Mississippi and Alabama have collaborated with the Institute of Sustainable Communities ([www.iscvt.org](http://www.iscvt.org)) to identify better ways to plan for disasters and to communicate with their residents. A team of qualified CRI facilitators under the leadership of Mississippi-Alabama Sea Grant Consortium exists to serve the assessment needs of communities along the northern Gulf Coast. CRI is a reliable, easy-to-use tool for assessing resilience to coastal disasters. It helps identify not only challenges, but also opportunities to be better prepared and able to respond.





# VCAPS: A Planning Process

## *to Enhance Storm Resiliency in Orange Beach, Alabama*

By TOM HERDER, WATERSHED COORDINATOR, MOBILE BAY NATIONAL ESTUARY PROGRAM

**B**elieving that “forewarned is forearmed,” the City of Orange Beach teamed with the Mississippi-Alabama Sea Grant Consortium, National Oceanic and Atmospheric Administration, and the Social and Environmental Research Institute (SERI) to assess vulnerabilities to climate-related threats to the coastal Alabama community. Since storms and other weather events, part of life on the Alabama coast, are expected to increase in frequency and intensity as a result of climate change, Orange Beach wanted a plan. In July 2012, they brought elected officials together with planners, resource managers, and stakeholders to blend local knowledge with climate science in a local community planning effort.

The seven-hour meeting was facilitated by Seth Tuler and Thomas Webler of SERI to employ the Vulnerability and Consequences Adaptation Planning Scenarios (VCAPS) process. This interactive process integrates local knowledge with climate science to create “influence diagrams” that link local climate stressors, consequences, vulnerabilities, and potential management options to prepare the community for the inevitable challenges of late summer storms and the intense rainfall events that impact the northern Gulf coast year-round.

The process involved information provided by locals, with process guidance from the SERI facilitators. Each diagram started with a climate stressor, like “heavy

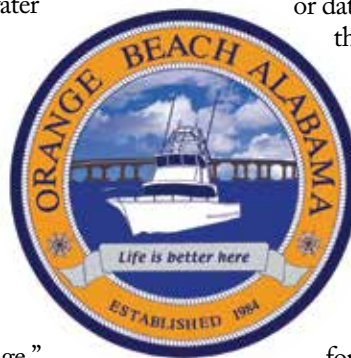
rainfall.” Local participants identified outcomes associated with that stressor, like “runoff” and “infiltration.” Causal chains were developed from initial outcomes in logical series, like, “groundwater infiltration,” then “elevated groundwater,” and then “flooding of buildings and low areas.” Consequences (effects of the outcomes impacting things people care about) exert some sort of loss to things people value (e.g., “wet wallboards, carpets, and floors,” then “property damage,” and then “legal costs”). Then they looked at factors, or vulnerabilities – like the duration of wetness – that could make the area more or less vulnerable to stressors, outcomes, or consequences. For instance, would the duration of wetness make things better or worse? Answers were added to the diagram on participants’ recommendations. The more detailed the causal chain, the easier it was to identify and envision possible management actions. For each object in the diagram, participants were asked questions like: What needs to be done to prevent or mitigate this? What is the best way to perform this action? Who should address this action?

A completed VCAPS diagram provides the building blocks needed to adapt to and manage different scenarios likely to occur during storms or weather events. The Orange Beach process resulted in a Workshop Report with diagrams for

Heavy Rainfall and Severe Coastal Storms that summarized information, knowledge, and experience from community members; identified issues for further exploration or data needs; and stimulated thought and conversation about management of consequences by those charged with hazard management. It also led to an update of the Orange Beach Emergency Operations Plan. Participant evaluations expressed great enthusiasm for the process and its value to planning, and comments included:

- Real-time diagramming supported understanding and sharing of information.
- The process helped to keep the participants focused on the process as opposed to personalities and contrasting viewpoints.
- Self-generated scenarios were more credible.
- It placed relatively few demands on the time or resources of local officials.
- I really enjoyed it. Meetings are so dull. And this is fun!

VCAPS provided a valuable framework for effective and important planning for coastal Alabamians, for whom resilience is a necessity.





# Group Wins Kudos for Environmental Efforts

By KIM SWEET, DOG RIVER CLEARWATER REVIVAL



**The grassroots organization Dog River Clearwater Revival in Mobile, Alabama, received multiple accolades in 2013 for their efforts targeting healthy waters and healthy people in the coastal community.**

Most recently, the Marine Environmental Partner of the Year Award, was presented by Dauphin Island Sea Lab Foundation to DRCCR for their efforts to remove litter and debris from Dog River Watershed. Their *Trap-the-Trash* campaign has seen effective litter capture technology in the urbanized, yet beautiful, watershed and expects to see a Bandalong



Litter Trap® installed this year. Another DRCCR program includes a partnership with Dauphin Island Sea Lab to remove derelict vessels from the river. The program will also educate the public on proper mooring laws to help prevent future abandoned vessels. (See page 2)

Earlier in the year, Partners for Environmental Progress gave their Community Environmental Partner of the Year Award to DRCCR for efforts to educate the public on ways to be better environmental stewards. One of the group's projects includes the Storm Drain Marker program, which involved installing nearly

10,000 plaques on drainage openings around the city reminding citizens that water draining from their street flows unfiltered into the river. Another project, The Dog River Scenic Blueway joined with the National Park Service's River & Trails Assistance, the City of Mobile Parks & Recreation Department, the Alabama Department of Economic and Community Affairs and many others to create a public water trail for canoes and kayakers.

*DRCCR is an all volunteer non-profit environmental organization concerned with issues affecting Mobile's Dog River Watershed, which drains most of the City of Mobile and functions as an important recreational waterway. To learn more about this and other activities, please visit [www.DogRiver.org](http://www.DogRiver.org).*



# Community Continues Three Mile Creek Revival

BY MARK BERTE, EXECUTIVE DIRECTOR, ALABAMA COASTAL FOUNDATION AND  
DEBI FOSTER, COMMUNICATIONS COORDINATOR, MOBILE BAY NATIONAL ESTUARY PROGRAM

**C**ommunity cleanups are a great way to beautify local ecosystems and resources, educate volunteers and community members about lasting effects of storm water damage to watersheds, and engage the community to be part of the solution to the litter problem. Toulminville, a diverse and traditionally underserved urban community in north Mobile, is a shining example of such efforts as they continue to come together to restore the Three Mile Creek watershed.

During the Martin Luther King, Jr. Day of Service on Monday, January 20, 2014, over 130 volunteers took Dr. King's message to heart and gave their time and energy to clean the banks of Three Mile

Creek. Volunteers collected hundreds of bags of trash from in and around the creek as well as 200 illegally dumped tires. As a service to the community, Firestone took the retrieved tires and properly disposed of them. Littered tires are a tremendous issue throughout coastal Alabama, as they leach toxic chemicals and provide breeding grounds for mosquitoes through water retention.

Last fall, residents and community volunteers joined forces Saturday, November 23, 2013, to Take Pride in Toulminville. Despite the rainy forecast and gloomy skies throughout the morning, organizers with the Mobile Bay National Estuary Program (MBNEP) and the

City of Mobile reported some three hundred people collected over 600 bags or 20 cubic yards of trash from along streets, ditches and banks around Three Mile Creek.

Both events followed the inaugural project, Clean Up The Bottom, which took place in 2011. The successful event kicked off a major collaborative planning effort in keeping with the MBNEP's mission of promoting a community and culturally-based approach to watershed

management within the Three Mile Creek boundaries. Thank you to all of our partners who have helped make these cleanups a success.

*"Life's most persistent and urgent question is: What are you doing for others?"*

*Martin Luther King, Jr.*



*Volunteers comb the banks of Three Mile Creek.*



*ACF's Kandice O'Grady piled bags of collected debris.*



*Hundreds of illegally dumped tires were retrieved for proper disposal*





*Gulf State Park*

# Alabama State Parks *Celebrate 75 Years of Service*

By KIM NIX, OUTDOOR ALABAMA MAGAZINE, DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

**F**rom the beaches of the Gulf Coast to the Appalachian foothills, Alabama State Parks reflect every facet of the state's rich natural landscape, and in 2014, the state's park system will celebrate a milestone – its 75<sup>th</sup> anniversary.

Throughout the year, Alabama's 22 state parks will host a variety of hikes, nature walks and programs, dining and camping specials and various other events highlighting 75 years of service to the people of Alabama.

"Alabama State Parks recently launched a public relations campaign acknowledging the many partners we have in our parks," said Greg Lein, Alabama State Parks Director. "We hope the 75th anniversary celebration will strengthen our connection with all the visitors and other partners who make these parks possible. Alabama's park system exists

thanks to their support, and we need it now more than ever."

Today, one of Alabama's 22 state parks is within an hour drive from most any community in the state and offers a wide variety of outdoor recreation opportunities including:

- Five resort parks featuring lodge, restaurant and convention facilities.
- Ten parks with modern cottages and chalets.
- Twenty-one parks with modern campgrounds.
- Two parks with cave tours.
- The Parks Path Golf Trail.
- The Gulf State Park Fishing Pier and Gulf Adventure Center Hummingbird Zipline.
- Three parks with marinas and many more fishing and boating opportunities.
- Picnic pavilions perfect for any outdoor gathering.
- Various museums highlighting the rich cultural and natural heritage of the local communities.
- More than 200 miles of hiking, biking, horseback riding and walking trails.
- Thousands of acres of water-based recreation ranging from mountain lakes and rushing streams to the sandy beaches of the Gulf of Mexico.

More information about the Alabama State Parks 75th Anniversary Celebration will be posted at [www.alapark.com](http://www.alapark.com) during the coming months. Visit the website often for lodging, camping, dining specials and event announcements.



# Mobile Bay National Estuary Program Welcomes Community Relations Manager

BY MOBILE BAY NATIONAL ESTUARY PROGRAM STAFF

The Mobile Bay National Estuary Program welcomes its newest employee, Rick Frederick, to the team. A longtime resident of Mobile with over 20 years of Business Development experience, Rick is excited to pair his business background with his love of coastal Alabama to meet the environmental challenges that lie ahead.



Rick currently resides in Fairhope.

Rick first came to Mobile in the late 1960s when his dad, Rex, was hired as the first head basketball coach at the University of South Alabama. He is a graduate of St. Paul's Episcopal High School and Auburn University where he earned a Bachelor of Science degree in Business Management.

Rick's goal is to work with private industry, community leaders and local citizens of Mobile and Baldwin Counties to ensure they understand the purpose, goals, and objectives of the MBNEP. Rick looks to involve numerous stakeholders from all facets of the community to help ensure a healthy estuary and to Create a Clean Water Future. Please feel free to contact Rick, as he would love to meet you and discuss any ideas you may want to share to help promote wise stewardship of water quality and living resources of the Mobile Bay Estuary.

## Current events May

**May 3-4, 10 a.m. - 4 p.m. each day**

**What:** Blessing of the Fleet

**Where:** St. Margaret's Church, Bayou La Batre, Ala.

**For information:** call (251) 928-9797 or [www.fleetblessing.org](http://www.fleetblessing.org)

**May 31**

**What:** Grandman Triathlon Race

**For information:** contact Mobile Baykeeper [www.mobilebaykeeper.org](http://www.mobilebaykeeper.org)

## July

**July 18 - 20**

**What:** 81<sup>st</sup> Annual Alabama Deep Sea Fishing Rodeo

**Where:** Dauphin Island

**For information:** call (251) 471-0025 or visit [www.townofdauphinisland.org](http://www.townofdauphinisland.org)

## August

**August 2**

**What:** 150<sup>th</sup> Battle of Mobile Bay - Ft. Gaines

**Where:** Dauphin Island

**For information:** [www.townofdauphinisland.org](http://www.townofdauphinisland.org)

## September

**September 20**

**What:** 27<sup>th</sup> Annual Alabama Coastal Cleanup

**Where:** Various locations throughout the watershed - Mobile Bay National Estuary Program zone - McNally Park - 4380 Park Road, Mobile - [www.mobilebaynep.com](http://www.mobilebaynep.com)

**For information:** [www.alcoastalcleanup.com](http://www.alcoastalcleanup.com)

**September 27**

**What:** 26<sup>th</sup> Annual Taste of the Bayou

**Where:** Bayou La Batre, Ala.

**For information:** call (251) 824-4088 or visit [www.bayoulabatrechamber.com](http://www.bayoulabatrechamber.com)

## October

**October 9-12**

**What:** 42<sup>nd</sup> Annual National Shrimp Festival

**Where:** Gulf Shores, Ala.

**For information:** call (251) 968-6091 or visit [www.alagulfcoastchamber.com](http://www.alagulfcoastchamber.com)

**October 11**

**What:** 11<sup>th</sup> Annual Alabama Bird Festival

**For information:** visit [www.AlabamaCoastalBirdFest.com](http://www.AlabamaCoastalBirdFest.com)

## Alabama current connection

### About the Mobile Bay National Estuary Program:

The Mobile Bay National Estuary Program's mission is to lead the wise stewardship of water quality and living resources of the Mobile Bay and Tensaw Delta. The MBNEP serves as a catalyst for activities of estuary stakeholders, helping to build community-based organizational capacity for sound resource management and leveraging commitment and investment to ensure the estuary's sustainability. For more information, please contact the MBNEP office at 251-431-6409.

### About ADCNR, State Lands Division, Coastal Section:

In an effort to protect and enhance coastal resources and reduce potential conflicts between environmental and economic interests, the Alabama Coastal Area Management Program (ACAMP) was approved by the National Oceanic and Atmospheric Administration (NOAA) in 1979. The ACAMP is administered through the Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section. For more information, please contact the Coastal Section office at 251-621-1216.

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*Alabama Current Connection* encourages reprinting of its articles in other publications. If you have recommendations for future articles or would like to subscribe, please contact the editor:

Rick Frederick  
Mobile Bay National Estuary Program  
118 North Royal Street, Suite 601  
Mobile, AL 36602  
Office: 251-431-6409  
Fax: 251-431-6450  
E-mail: [rfrederick@mobilebaynep.com](mailto:rfrederick@mobilebaynep.com)

We reserve the right to edit submissions.

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## Alabama current connection

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Marine Environmental Science Consortium  
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Dauphin Island, Alabama 36528

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Mobile, AL 36601



# Mobile County Steps Up Recycling Efforts

By DEBI FOSTER, COMMUNICATIONS COORDINATOR, MOBILE BAY NATIONAL ESTUARY PROGRAM

**M**obile County residents properly disposed of 79 tons of hazardous materials during the Mobile County Regional Paint Recovery Event on Saturday, November 23, 2013. Volunteers recorded collecting 158,000 pounds of oil, latex and aerosol paints. Despite efforts to only collect paint, citizens came by car and truck to bring in additional household hazardous waste, including pesticides, pool chemicals and other assorted materials. Reports indicate that 125 volunteers participated in the event serving 800 vehicles.

Soon, residents of rural Mobile County will be able to recycle their residential waste on a regular basis. The Mobile County Regional Recycling Drop-Off Facility is set to open this fall at the



former Brewer Center location on Hitt Road in West Mobile. The operation will be under the management of Goodwill Easter Seals of the Gulf Coast and is

tentatively scheduled to be open daily, 7 a.m. until 7 p.m. They will be equipped to receive: clean paper, plastic, aluminum, steel cans, clothing, glass, and electronics.

