

MCM Education Outreach
3.1.B-1.1a EAC Survey

Surveys Attached

Survey completed in 2017

MCM 1 Education Outreach
3.1.B-1.1b List of Local Media Outlets

	Local Media Outlets for Stormwater Education	Contact
1	Bulletin-ES Courier- Gulf Coast News Media	Cliff
2	Coastal Connection	Tom Herder
3	Jubilee Breeze	Kara Wilbourn
4	Lagniappe	Gabriel Tines
5	Lake Forester	Marie Bidney
6	Mobile Press Register	Mark Anderson
7	WHEP 1210AM	Clark Stewart
8	WKRG 5 TV Station	Lauren Vargas
9	Daphne Community Magazine	Samantha Arcieri
10	Alabama Water Watch Web Magazine	Rita Grub
11	Southeast Stormwater Association	Scott Hofer
12	Eastern Shore Magazine-Chamber of Commerce	Denise Curtis
13	Timber Creek POA	Candace
14	Fox 10	Erik Reynolds

MCM 1 Education Outreach
3.1.B-1.1c Article Submitted to Local Media

Qty	Local Media	Date	Article Title
1	Alabama Current Connection	Spring/Summer 2019	Stepping Up-Coastal Alabama Cities Demonstrate Stewardship
2	Eastern Shore Monthly	December 24, 2019	D'Olive Creek Model for Restoration
3	The Lake Forester	January, 2020	Lake Forest Infrastructure and Capital Projects Updates
4	The Lake Forester	Februray, 2020	Women's Club Guest Speaker

Alabama current connection

SPRING/SUMMER 2019 • Vol. XIII, Issue 1

Stepping Up! Coastal Alabama Cities Demonstrate Stewardship

BY TOM HERDER, MOBILE BAY NATIONAL ESTUARY PROGRAM

The Orange Beach Department of Coastal Resources was featured in the winter 2017-2018 *Alabama Current Connection*, and other cities in the State's two coastal counties are increasingly demonstrating wise stewardship of Alabama's estuarine waters. The Mobile Bay National Estuary Program is successfully engaging these important partners in fulfilling its mission. Watershed management plans (WMPs) for the D'Olive Creek, Eight Mile Creek, Three Mile Creek, Fowl River, Dog River, Bon Secour River, Weeks Bay, and Bayou La Batre watersheds are complete, and funding has been secured to develop WMPs for all Alabama watersheds with tidal influence. *Continued on page 6*

Daphne's Gator Alley along D'Olive Creek at Highway 98 employs low impact design, stormwater management measures, and interpretive signage to educate visitors.

Photo: Ashley Campbell



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Coastal Corner

By LEE YOKEL, ENVIRONMENTAL EDUCATION
COORDINATOR, GULF OF MEXICO ALLIANCE

Gulf of Mexico Alliance Holds All Hands Meeting

The Gulf of Mexico Alliance (GOMA) is holding their annual All Hands meeting in the new premier coastal destination, The Lodge at Gulf State Park, June 10-13, 2019. Each year, GOMA meets to address critical issues shared by all five U.S. Gulf states.

This week-long meeting provides a unique networking opportunity to implement GOMA's Governors' Action Plan III, the guiding document of the organization. It is the third five-state Governor-approved action plan for a healthy Gulf of Mexico. The State of Alabama has been a lead partner since GOMA's inception in 2004.

GOMA addresses water resources, habitat resources, wildlife and fisheries, data management, coastal resilience, and education and engagement through six separate teams comprising professionals from those topical areas. These teams overlap in three additional initiatives: marine debris, ecosystem services assessment, and coastal restoration and resilience planning. Dedicated Team and Initiative sessions allow participants opportunities for professional development, action advancement, and peer-to-peer program collaboration.

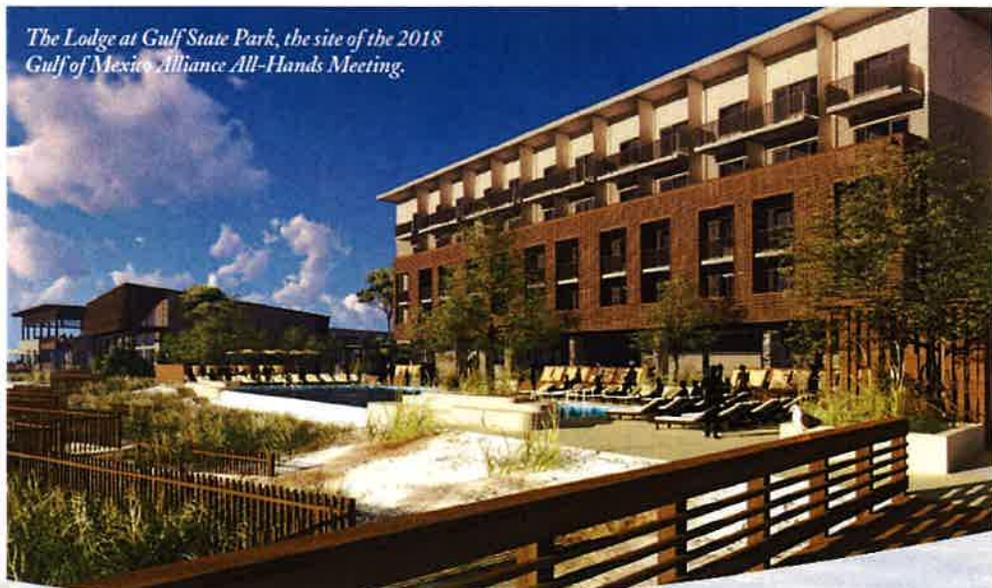
Each year, GOMA meets in a different Gulf state. It is the first time partners will gather on Alabama beaches. The new Lodge is a model of resilient, environmentally-friendly coastal

development. A central focus of the facility is connectivity to the outdoors. GOMA is drafting a robust agenda for the week to include the popular reception, 'Tools Cafe', a "Get to Know GOMA" breakfast, in addition to the working sessions. A list of popular activities, like bird watching and kayaking, will allow visitors to make the most of their networking. "State partners in Alabama are very supportive of working collaboratively to achieve regional results. This year's meeting will highlight resilient practices from buildings and structures to ecology and tourism. Alabama has some great practices to show off and we look forward to highlighting them as a part of our 2019 meeting." – Laura Bowie, GOMA executive director.

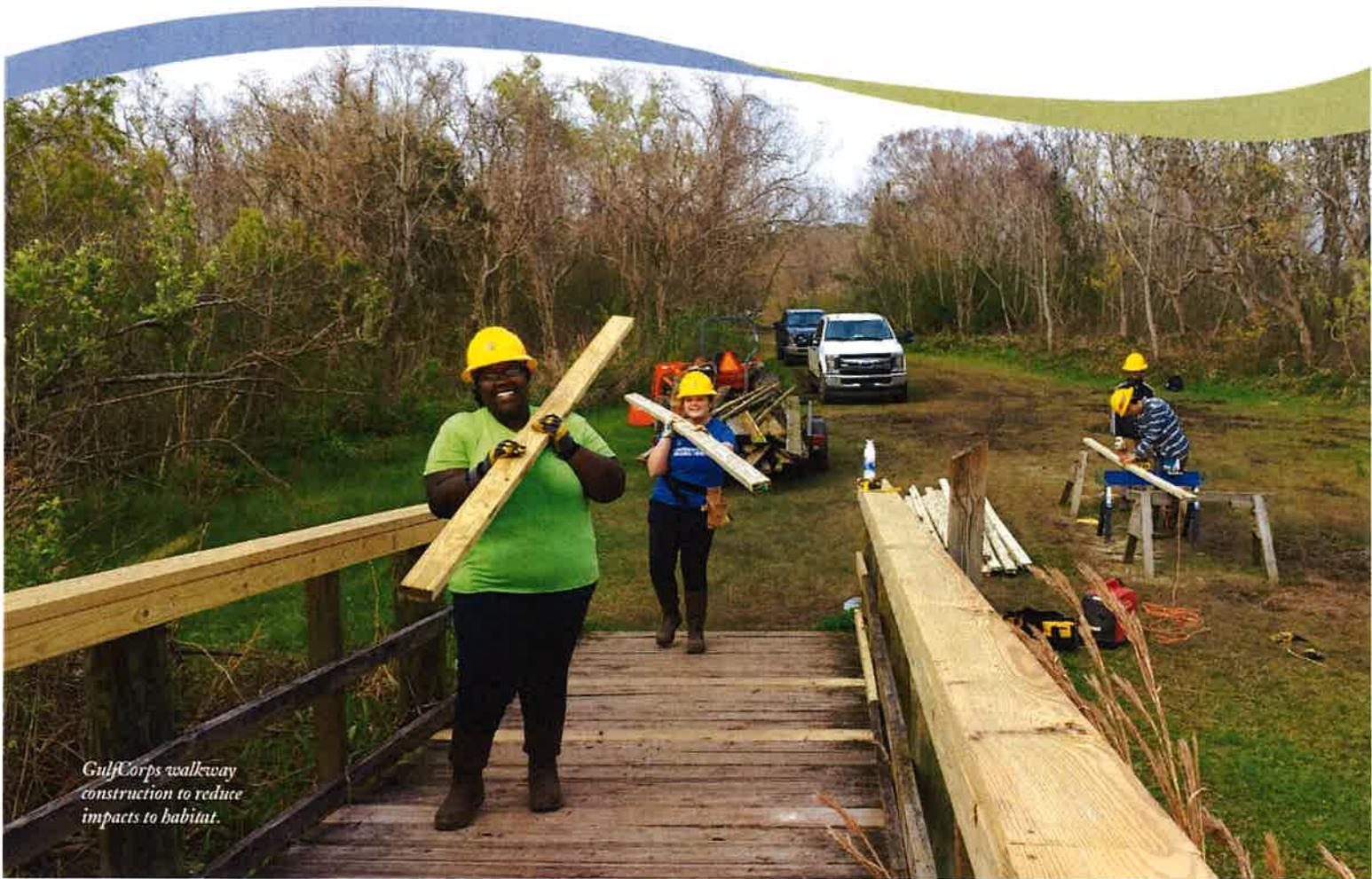
Registration for the meeting is open, and organizers encourage stakeholders to make their reservations before The Lodge is full. Everyone is welcome to participate.

About the Gulf of Mexico Alliance

GOMA is a regional ocean partnership that works to sustain the resources of the Gulf of Mexico. Led by the five Gulf states, the broad partner network includes federal agencies, academic organizations, businesses, and non-profits in the region. The goal of the partnership is to significantly increase regional collaboration to enhance the environmental and economic health of the Gulf of Mexico. The Gulf of Mexico Alliance is a 501c3 non-profit organization.



The Lodge at Gulf State Park, the site of the 2018 Gulf of Mexico Alliance All-Hands Meeting.



GulfCorps walkway construction to reduce impacts to habitat.

GulfCorps Efforts in Alabama: *Restoring Local Habitats and Growing Conservation Leaders*

BY LARISSA GRAHAM, GULF COAST TEAMS MANAGER, STUDENT CONSERVATION ASSOCIATION

The GulfCorp Program is supported through a RESTORE Act grant; administered by the National Oceanic and Atmospheric Administration (NOAA); and implemented by The Nature Conservancy (TNC), The Corps Network (TCN), the Student Conservation Association (SCA), and other Conservation Corps organizations along the Gulf of Mexico. This conservation and restoration program is

creating a workforce from Gulf communities and with the guidance and support of federal, state, and local agencies, non-governmental organizations (NGOs), and community groups.

What is GulfCorps?

GulfCorps deploys participants to work on projects benefiting coastal habitats, like wetlands, maritime forests, bogs, savannahs, oyster reefs, rivers, and streams. This helps restore our coastal habitats and create more resilient coasts. GulfCorps crews are skilled manual

laborers specializing in invasive species eradication, shoreline stabilization, wetland and stream revegetation, oyster reef restoration, conservation and land management activities, habitat and water quality assessments, prescribed fire management, project monitoring, and other key habitat conservation skills. After graduation from the program, some will continue their education or vocational training in habitat restoration. Others will return to GulfCorps crews as team leaders, spending their second years guiding newly-arriving crew members.

GulfCorps is expanding in its second year, both in number of participants and locations around the Gulf of Mexico. GulfCorps crews will begin work again in the fall of 2019 in various locations to leave a lasting impact on the Gulf Coast and its communities.

What success has GulfCorps demonstrated to date?

GulfCorps is wrapping up Year 2 of the grant and is currently planning for the kick-off of Year 3 in September of this year. The inaugural year of the program, which ended in August 2018, showed that conservation corps are highly effective and efficient at helping our partners achieve conservation and restoration goals. In Year 1 alone, GulfCorps crews across the Gulf of Mexico accomplished the following:

- **Five crews**, comprising 50 crew members and leaders, were hired and trained.
- **Sixty-two acres of invasive species were mapped or treated**, including popcorn trees, Chinese privet, apple snails, and cogon grass, among others.
- **Twenty-four acres of wetlands, marshes, or beaches were revegetated with native plants**, including smooth cordgrass, sea oats, black needle-rush, and longleaf pine.
- **Three hundred sixty-six acres of wetlands, marshes, or beaches were enhanced through protection, conservation, and restoration**, including pitcher plant bog restoration and protection of bird nesting beaches.
- **One hundred twenty-eight acres of upland were conserved or restored**, including clearing vegetation and brush to create fire lanes and improve public access trails.

How is the Student Conservation Association Involved?

In Alabama, the Student Conservation Association (SCA) manages GulfCorps crews. The SCA was founded in 1957 to



GulfCorps dune restoration and sea oats planting.

build the next generation of conservation leaders by engaging young people in hands-on service to our public lands. The SCA's GulfCorps crews are based in Mobile, AL, and work with state, local, and federal partners in Mobile and Baldwin counties to restore coastal habitats and improve public lands.

Since GulfCorps began in early January 2018, SCA has recruited, hired, and trained 28 young adults who have accomplished a diverse array of projects and activities. During their six-month employment, these crew members worked with many State of Alabama agencies, the U.S. Fish & Wildlife Service, the Mobile Bay National Estuary Program, the Dauphin Island Parks and Beach Board, and NGOs like the Weeks Bay Foundation and The Nature Conservancy in Alabama. In Years 1 and two the crews have:

- **Rebuilt 2,250 feet of boardwalk and maintained 4,000 feet of trails** at Meaher State Park, Bon Secour National Wildlife Refuge, and Dauphin Island Park and Beach Board property;
- **Installed fencing and planted more than 6,400 sea oats to restore sand dunes** on Dauphin Island public beaches;

- **Cleaned up hurricane debris** to protect beach mouse habitat on Gulf Shores public beaches;
- **Removed more than 1,800 invasive apple snails and 4,500 egg masses** in Langan Lake lakes and Tricentennial Park;
- **Treated about 400 acres of privet, popcorn trees, climbing ferns, coral ardisia, and other invasive plant species** at multiple properties owned by state, local, and federal entities;
- **Created and maintained 32,000 feet of fire lanes** prior to prescribed burns in Mobile and Baldwin counties; and
- **Mapped more than 55 acres of state water-bottoms** to help determine suitability for oyster restoration efforts in the future.

Training is an important part of GulfCorps, and the Student Conservation Association provides rigorous professional training courses so that crew members can properly use hand tools and safely conduct the work they are asked to do. Crews are also exposed to a variety of opportunities to help explore potential career options as they gain work experience. In addition to Wilderness First Aid and CPR, S-212 Wildland Fire Chainsaw Certification, and Prescribed Fire Certification, crew members have attended the Alabama Coastal Foundation's Sustainability Summit and Gulf Coast Wildlife Symposium and received Alabama Water Watch training in water quality monitoring. As each work season concludes, SCA staff organizes a career day, so members can hone their resumes, gain exposure to the workforce with local professionals engaged in areas of their interest, and learn from a panel-discussion from their professional peers.

The SCA also coordinates and leads the GulfCorps Orientation, which brings all of the crews from each Gulf state together at the start of each season. Crew members learn how to resolve conflicts that may occur, prepare for emergency situations, and use habitat restoration tools and techniques in a safe and effective way.



Mobile's GulfCorps Team after successful cleanup efforts on the Causeway.

They also learn the importance of team work, the value of diversity, and how to prepare for their next career steps. After orientation, crew members ideally understand they each play an important role in this Gulf-wide conservation effort and have the tools and skills to have a successful field season.

What's next?

GulfCorps will kick-off Year 3 with another Orientation in September in Fairhope, AL. The program is expanding again in Year 3 to include more people, more crews, and a longer field season. Year 3 is different because the crews starting in September will work for nine to 12 months, giving participants a higher-quality experience and providing more flexibility and time to the project partners GulfCorps serves. SCA will begin filling GulfCorps positions over the summer of 2019.

Want to learn more?

Watch videos and read stories about GulfCorps at www.nature.org/gulfcorps. To find more information about open positions in Alabama, visit SCA's GulfCorps conservation crew page at <https://www.thesca.org/serve/program/gulfcorps-conservation-crew>.

For information about the overall GulfCorps Program, contact Jeff DeQuattro with The Nature Conservancy at jdequattro@tnc.org.

For information about the Student Conservation Association and their Alabama GulfCorps Crews, contact Larissa Graham at lgraham@thesca.org.



GulfCorps trail maintenance.



The Three Mile Creek Greenway bicycle and walking trail in Mobile, AL.

Stepping Up! *Continued from page 1*

The positive effects of the community involvement and educational engagement involved in the planning process are being realized. While each watershed has its own unique qualities, challenges, and paths to success, certain issues, like trash, nonpoint source pollution, and public access, are shared across coastal Alabama communities, and cities are stepping up to respond.

In Mobile County, the City of Mobile, Alabama's most populous coastal city, has endorsed and embraced the Three Mile Creek WMP and was implementing recommendations of the Dog River WMP even before its publication. The City is currently involved in reducing trash conveyed to its waters by stormwater runoff, providing access to resources through construction of a bicycle trail along Three Mile Creek, and reducing the delivery of sediment to the lakes at Langan Park.

In 2015, the City partnered with Dog River Clearwater Revival to install and maintain a large-scaled Bandalong™ Litter Trap in Eslava Creek north of McVay Drive. It successfully captures an average of 400 cubic yards, or 30 dump trucks, of floatable trash each year from the Dog River system. In 2019, the City contracted Osprey Initiative to use boats to remove trash from the banks of Dog River and Three Mile Creek.

With trash carried by stormwater runoff into our receiving waters from roadways and parking lots, the City

established a Litter Crew in 2017. Seven days a week, eight city employees supervise community service offenders who have worked a total of 11,000 hours from April 2017 through February 2019, picking up 46,000 lbs. of litter from outside Mobile rights-of-way. Mowing contractors removed over 800 cubic yards of litter from rights-of-way in 2017 and 2018. The City also partnered with Mobile Baykeeper, who secured a NOAA Marine Debris grant to fund installation of 150 marine debris interceptors (MDIs) in storm drains along City parade routes as part of

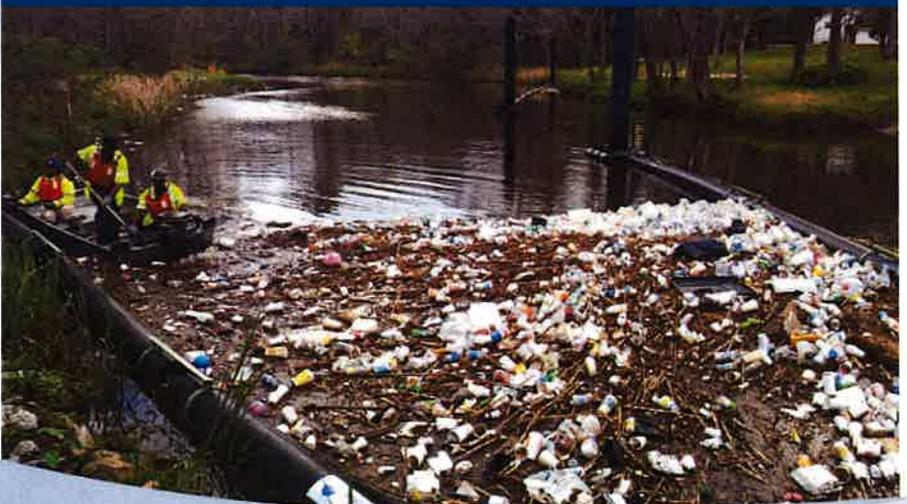
the Litter-Free Mardi Gras campaign. They function as litter baskets inside storm drains to keep litter from entering waterways. An additional 79 MDIs were deployed across all seven Council Districts.

Outreach, planning, and construction are underway to build a bicycle trail to connect communities along Three Mile Creek from the University of South Alabama east to Downtown. Construction began in 2017 with a mile of trail from Tricentennial Park to near the Strickland Youth Center on the Creek's north side. RESTORE Act funding has been secured to complete the trail.

The City also secured RESTORE funding to dredge the shallow, sediment-impacted lakes at Municipal/Langan Park to enhance stormwater management and improve ecological condition. First, they are partnering with MBNEP to stabilize incised sections of Twelve Mile Creek, the primary source of the sediment impacting the lakes.

Environmental stewardship is on display in Baldwin County. The City of Daphne is also involved in litter abatement, stormwater management, and provision of public access, guided by a 15-member, voluntary Environmental Advisory Committee. Daphne employs two workers to remove trash from rights-of-way prior to mowing and has installed educational D'Olive Watershed signs. Their

City of Mobile employees removing captured floatable trash from the Bandalong™ Litter Trap in the Eslava Creek Tributary to Dog River. Photo: David Ludwig, City of Mobile



Environmental Programs Manager has been key throughout the seven-year, \$13M National Fish and Wildlife Foundation (NFWF)-funded program to restore erosion-impacted D'Olive Watershed streams choking Lake Forest Lake and D'Olive and Mobile bays with silt and sediment. The City purchased four lots to supplement a donation of 26 acres surrounding Tiawasee Creek, then secured half of the \$1.3M cost through a Coastal Impacts Assistance Program to restore the 1,200 feet of the channelized and incised stream channel. In 2011, Daphne added new regulations to address stormwater impacts, including more rigorous stormwater management requirements and implementation of 30-foot and 50-foot buffers for wetlands and streams, respectively.

In addition to Gator Alley, Bayfront Park, and other outstanding green spaces, Daphne has purchased a 12-acre bayfront



Controlled burning is used to manage forests in the City of Foley's Graham Creek Park and protect special habitats like pitcher plant bogs. Photos: Leslie Gabagan, City of Foley



The restoration of D'Olive Creek between I-10 and Highway 90 in Daphne is the largest coastal stream restoration project undertaken in the State. Photo: Ben Brenner

tract of bottomland hardwoods and wetlands with boardwalks and trails planned. The City is also pursuing funding and designation by Forever Wild of the 100-acre wooded, wetland D'Olive Bay Tract for protection.

With a WMP for the Bon Secour Complex (Bon Secour River, Skunk Bayou, and Oyster Bay watersheds) completed, the City of Foley continues to inspire. With similar capacity as Daphne, personnel continue to remove trash from rights-of-way prior to mowing, and, like Mobile, Foley has contracted Osprey

Initiative. In Foley, the firm has installed and will maintain a small, portable LitterGitter™ litter trap in an unnamed tributary to the Bon Secour River draining the most urbanized portions of the City.

With some funding from the MBNEP in 2011, Foley restored 500 feet of Wolf Creek and installed Bon Secour Watershed signs along roadways. The City recently secured NFWF funds to purchase 94 acres along the Bon Secour River and use natural features, constructed wetlands, and sediment sumps to enhance downstream water quality. They also used a regulatory approach to

manage stormwater. New City ordinances require low impact development, or LID, measures for all new developments and re-developments to ensure that the first inch and a quarter (1.25") of rainwater has to be retained and cannot run off the property. Foley requires 50-foot and 30-foot buffers for named streams and wetlands in undisturbed natural states, respectively.

Foley's 500-acre Graham Creek Nature Preserve, containing pine savannahs, wetlands, and tidal marshes, is another example of coastal Alabama municipal stewardship. Careful habitat management including controlled burns and invasive species control provide protection for rare plant and animal species. The Preserve provides a mix of recreational opportunities for hikers, paddlers, and bird and wildlife watchers along with conservation, and protection of natural habitat.

City of Gulf Shores' stewardship efforts include beach protection, litter abatement, recycling, and acquisition to provide more public access. As part of the Leave Only Footprints program, Gulf Shores (along with Orange Beach) has adopted strong ordinances that require all personal items to be removed from the beach each night and prohibits people from disrupting dunes, instead requiring them to use walkovers or boardwalks. *Continued on page 8*



Foley's 500-acre Graham Creek Nature Preserve with a visitor center, hiking and biking trails, kayak launches, and disc golf courses. Photos: Leslie Gabagan, City of Foley

Stepping Up! *Continued from page 7*

The ordinances have been well-received, enhancing the beauty of the beaches and protecting nesting turtles, shorebirds, and the endangered Alabama beach mouse. Two to three City employees work seven days a week along State routes to pick up trash that would otherwise be carried by runoff to the City's extensive network of waters. Despite the lack of profit incentive, Gulf Shores has developed a comprehensive recycling program, and they sort and pulverize glass products to create sand used in road repairs.

Gulf Shores received a \$12.5M NFWF Grant for the Bon Secour-Oyster Bay Wetland Acquisition Project, to protect and restore 836 acres of tidal marshes, maritime forests, and wetlands within the city limits, adding to the Gulf Highlands and Bon Secour Refuge acquisitions on

the neighboring Fort Morgan Peninsula. The City is partnering with the State of Alabama to provide environmental improvements within Gulf State Park, including development of over nine miles of new trails, restoration of dunes, and partnering with the Jean-Michel Cousteau Ocean Futures Society to establish a coastal ecosystems interpretive center.

As a WMP will soon be developed for Fly Creek, City of Fairhope efforts include public outreach related to storm drains, curbside recycling, stream bank restoration to reduce sedimentation, marina upgrades, and regulatory revisions to promote greenspaces and LID. Through a partnership between the City,

Fairhope High School, and the Weeks Bay Reserve, students competed to design and install educational storm drain makers throughout the City to foster awareness about protecting Mobile Bay. Fairhope is one of the only local municipalities offering curbside recycling, and nearly 35% of City waste is recycled. Fairhope is restoring streambanks along Rock Creek to reduce downstream sediment loads. Moving towards Clean Marina status, upgrades to the Fairhope Docks Marina include installation of a new pump-out station and parking lot stabilization.

Fairhope's current staff includes eight certified stormwater quality control inspectors. Their subdivision regulations were recently amended to increase



greenspace requirements and remove 10 impractical LID requirements, instead requiring "as many LID techniques as practical and appropriate for the development." Fairhope ordinances require buffers of 50 to 100 feet for waterways.

Other coastal cities are also increasingly demonstrating wise stewardship of the waters that make Lower Alabama special. With intensive watershed management planning continuing throughout the two counties, education and public involvement will increase concerns and efforts to conserve and protect.

City of Fairhope partnered with Fairhope High School and the Weeks Bay Reserve to host a storm drain marker design contest. Markers with the winning design were installed on storm drains across the City to foster awareness about protecting the Mobile Bay. Photos: Nancy Milburn, City of Fairhope



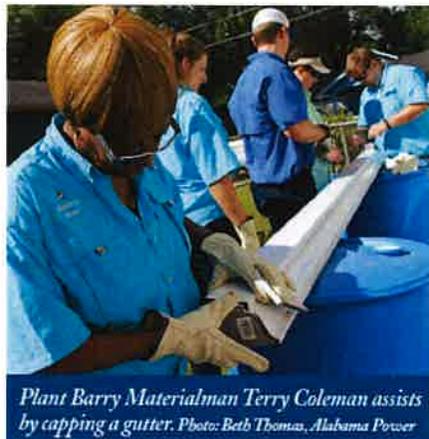
Private Sector Partners Install Rain Barrels in Prichard, Alabama

By BETH THOMAS, PUBLIC INFORMATION REPRESENTATIVE, ALABAMA POWER

The Summer 2017 edition of the *Alabama Current Connection* featured a program created to implement recommendations of the 2016 Prichard Drainage Study, the Toulmins Spring Branch rain barrel program, conducted by Mobile Bay National Estuary Program staff and the Coastal Alabama Conservation Corp. Supervised Corp members installed 30 rainwater catchment systems consisting of gutters, down spouts, two 55-gallon rain barrels, and hardware at homes in this flood-prone, low-lying community.

Two years later, several Mobile-area groups are teaming up to help the residents in the Three Mile Creek Watershed better manage stormwater impacts. Alabama Power Service Organization, members of the Plant Barry Environmental Stewardship Team (BEST), local land management company Greif, Inc. and its subsidiary Soterra, and the MBNEP are working together to install rain barrels in this Prichard community. The rain barrels are being installed to help collect water and reduce the impacts of localized flooding and stormwater runoff. Residents can also use the stored water as an inexpensive source for watering lawns or gardens.

Greif, Inc. donated 200 rain barrels to the MBNEP to help the organization continue the work begun in 2017 with the Conservation Corps in the Toulmins Spring Branch Subwatershed, which drains into Three Mile Creek. The MBNEP is working to implement the 2014 Three Mile Creek Watershed Management Plan (http://www.mobilebaynep.com/assets/landing/TMC_Final_WMP.pdf) to restore the Creek and surrounding neighborhoods. Coastal Alabama receives close to six feet of rain per year. In urban areas, most of this water flows across hard surfaces, picking up



Plant Barry Materialman Terry Coleman assists by capping a gutter. Photo: Beth Thomas, Alabama Power



Plant Barry Team Leader Matt Weatherford, MBNEP's Christian Miller, and Plant Barry Compliance Specialist Adam Moore shaping a dozen spout. Photo: Beth Thomas, Alabama Power

and carrying pollutants into waterways. The U.S. Environmental Protection Agency considers stormwater runoff to be the greatest threat to water quality in the United States. Rainwater harvesting, the practice of collecting and storing stormwater from roofs and other hard surfaces for future use, is one way to reduce impacts associated with residential stormwater runoff.

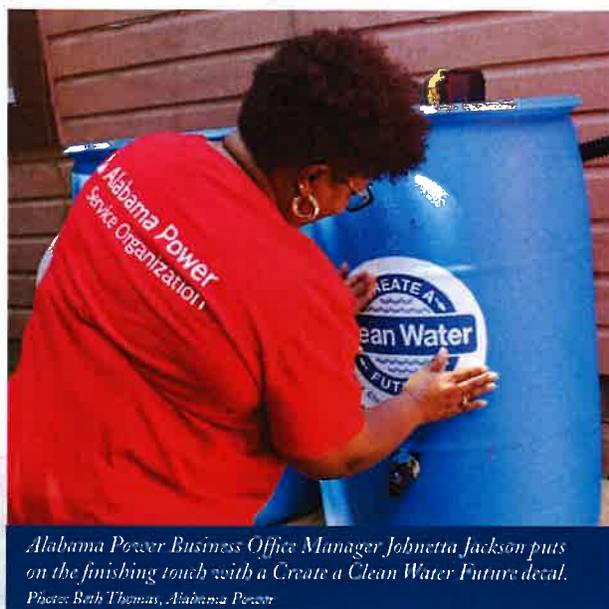
One inch of rain falling on a typical 1,000-square-foot roof yields over 600 gallons of water. Installing a rain barrel

at your home is an inexpensive way to capture and store some of this water for later use. With a rain barrel, you'll not only help reduce stormwater runoff, but you'll also have a supply of free, non-chlorinated soft water for washing the car, watering plants, and many other household uses.

The MBNEP's mission is to promote wise stewardship of water quality and living resources throughout the coastal waters draining to Mobile Bay. They bring tighter local citizens,

State and government agencies, businesses and industries, conservation and environmental organizations, as well as academic institutions to meet the environmental challenges facing our coastal resources.

Plant Barry's BEST is made up of employees who enjoy volunteering their time to help improve environmental conditions. The group meets monthly to coordinate and plan stewardship projects.



Alabama Power Business Office Manager Johnetta Jackson puts on the finishing touch with a Create a Clean Water Future decal. Photo: Beth Thomas, Alabama Power



As Alabama Celebrates Its Bicentennial, Watershed Management Plans Inform About Its Heritage and Culture

By TOM HERDER, MOBILE BAY NATIONAL ESTUARY PROGRAM

With Alabama's Bicentennial on December 14, 2019, eight watershed management plans (WMPs) developed by the Mobile Bay National Estuary Program provide insights into the heritage and culture of the coastal "cradle" from which the State arose. The MBNEP employs a "watershed approach," a shift from traditional city planning, where political borders limit available actions and resources. It ensures restoration efforts are based in science and fit into an overall management program. This approach involves development of WMPs for areas at the U.S. Geological Survey's 12-digit-hydrologic-unit-code scale draining to the receiving waters for which each WMP is named (with individual links found at http://www.mobilebaynep.com/the_watersheds). A WMP takes over a year to develop, requires intense community engagement, and focuses on informing watershed communities with data related to governance, demographics, socioeconomics, geography, geology, biology, ecology, hydrology, hydrography, and climate vulnerability. Since the 2013 update of the MBNEP's Comprehensive Conservation and Management Plan (CCMP), WMPs are expected to chart a conceptual course for improving or protecting things people value most about living in coastal Alabama: water quality, fish and wildlife, resilience, beaches and shorelines, and heritage and culture.

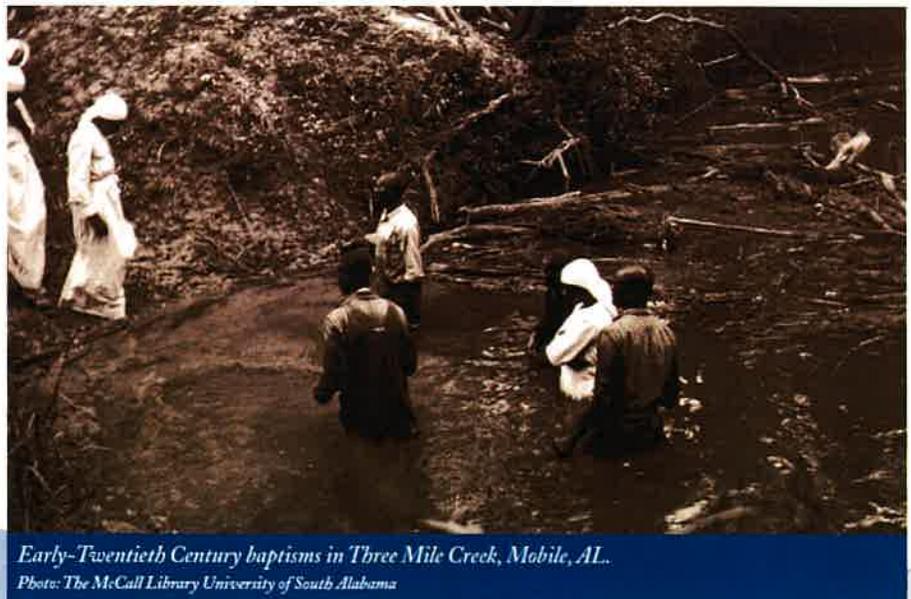
The **D'Olive Creek WMP**, published in 2010, preceded identification of those six values. This Plan has guided effective restoration of two miles of degraded streams and stemmed delivery

of tons of sediment into fishery nursery areas, but it did not address heritage and culture of this drainage area. The first WMP to do so in 2011 and also prior to the CCMP update was for **Eight Mile Creek**. It tracks the history and cultural diversity of the City of Prichard from the 1860 delivery of a community of slaves from the scuttled ship, *The Clotilda*; the formation of the community of Africatown by Clotilda survivors and descendants; and forward to the designation of the Whistler Historic District in 1975 (page 16).

The first Plan developed under current CCMP protocols was the 2014 **Three Mile Creek WMP**. Charting a course from the early 1900s through today, it recalls an expanding African-American community downstream baptizing new church members in the Creek's waters. It references historic paintings of horse races and hotels

along the Creek's banks, stories told by community members of swimming in and exploring the Creek as children, and the mid-20th century urbanization that degraded the Creek (pages 16 and 38).

The first WMP funded through *Deepwater Horizon*-related sources was for the **Fowl River Watershed** in 2016. It provides descriptions of early European exploration and settlement long before the 1812 creation of Mobile County, predating Alabama statehood, and the challenges faced by early settlers in shipbuilding, fishing, farming, raising livestock, and cutting timber. It describes mid-1800s horticultural development and early-1900s national recognition of Fowl River, Belle Fontaine, and Mon Louis Island as citrus-producing regions (before most citrus trees were destroyed in the mid-1930s by freezing). The building of the Home and Gardens by Walter and Bessie Bellingrath



Early-Twentieth Century baptisms in Three Mile Creek, Mobile, AL.
Photo: The McCall Library University of South Alabama



*Aerial view of the State Docks in Mobile, AL, 1937
Photo: Alabama Dept. of Archives and History*

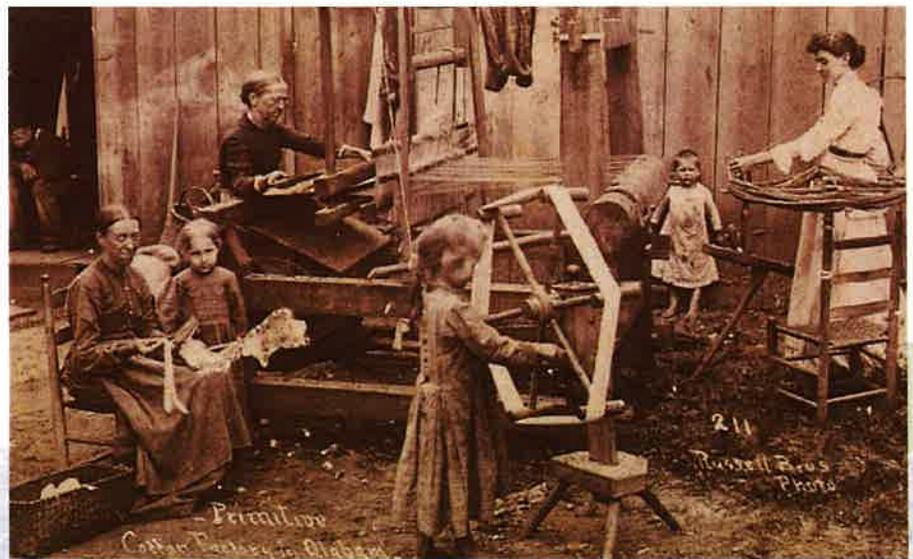
and nursery establishment by early 20th century entrepreneurs are detailed in the Plan. Early 1900s challenges of transportation and development of infrastructure, including the Old Bay Shore Railroad Line and the paving of roads, is described, along with development of the Dawes, St. Elmo, Irvington, and Theodore communities. It includes an account of a Catholic parish and construction of St. Rose of Lima Church. It lists various area clubs and organizations, like the Fowl River Area Civic Organization, concerned with sustaining the quality of its waters, developing community spirit, and providing a voice to gain the attention of elected officials for resolving problems (pages 92-94).

The most extensive historical account of the settlement of Mobile from pre-Columbian times to the modern era is provided in the 2017 **Dog River WMP**. This Plan's area includes Upper Dog River, Lower Dog River, and Halls Mill Creek watersheds, together comprising 56% of the City of Mobile. This account, from the Mississippian period and occupation by the Muscogee Creek Confederacy through documented historical times, includes an unverified (and generally rejected) account of Mobile's first European visitor, Welsh Prince Madoc, fleeing power struggles in his native land for Fort Morgan in 1170.

Continued on page 12



1920s image of cotton being carted to the gin. Photo: Alabama Dept. of Archives and History



Women and children spinning and weaving cotton, circa 1900. Photo: Alabama Dept. of Archives and History

The historically-verified line of European explorers, indigenous peoples, and major historical events is presented in the greatest detail of any WMP yet developed. It includes the Spanish explorers and their explorations of the Bahia del Espiritu Santo (Bay of the Holy Spirit) in the early 1500s; de Soto's clashes with Native Americans at Mauvila (from which Mobile's name is derived), and the arrival of French explorers Sieurs d'Iberville and de Bienville and their first attempt at a settlement at Twenty Seven Mile Bluff (near Mount Vernon). The account includes the Revolutionary War and War of 1812, construction of Fort Charlotte by the British on the site of French Fort Conde, and Andrew Jackson's presence in Mobile prior to his 1814 victory at New Orleans. The emergence of cotton as the cash crop, the Civil War, the Blockade, and Battle of Mobile Bay with Farragut's famous quote ("Damn the torpedoes...") precede the account of the 1865 explosion at the waterfront armory that killed 300 people. After timber replaced declining cotton around the turn of the century, World War I led to economic expansion and creation of the Alabama State Docks. After the Great Depression, World War II transformed Mobile into a shipbuilding city with a 60% increase in City population. Brookley Field, a famous air supply depot, was established before its closure in the early 60s and resurrection in the 21st Century as the home of Airbus. The Civil Rights movement,

desegregation cases, and transition into the present were all described in this detailed account (*found on pages 53-57*). A table of culturally significant resources is also included in this exceptional WMP section.

The 2017 **Bon Secour WMP**, comprising the Bon Secour River, Oyster Bay, and Skunk Bayou watersheds in southwest Mobile County, describes archeological records revealing the indigenous peoples who preceded European settlement by Spanish missionaries, French explorers, and Baltic Germans. Frenchman Jacques Cook named the River and village after the Cathedral Notre Dame de Bon Secour in Montreal – a name which, in English, means "safe harbor." Since the 1700s, the culture of the unincorporated village of Bon Secour has been oriented toward the sea. Timber, fur, and salt provided the raw materials for the first commercial businesses. As agricultural production rapidly developed in the 19th century, the City of Foley emerged as the center of population, commerce, and finance in the area, but commercial fishing and shellfishing remained the principle industry driving the local economy. While the seafood industry has slowed in recent years, the industry still employs many Watershed

residents and remains important to their heritage. Oral accounts of the 20th century are included, as is a table listing historically-significant sites in the Watershed (*pages 3-34 through 3-36*).

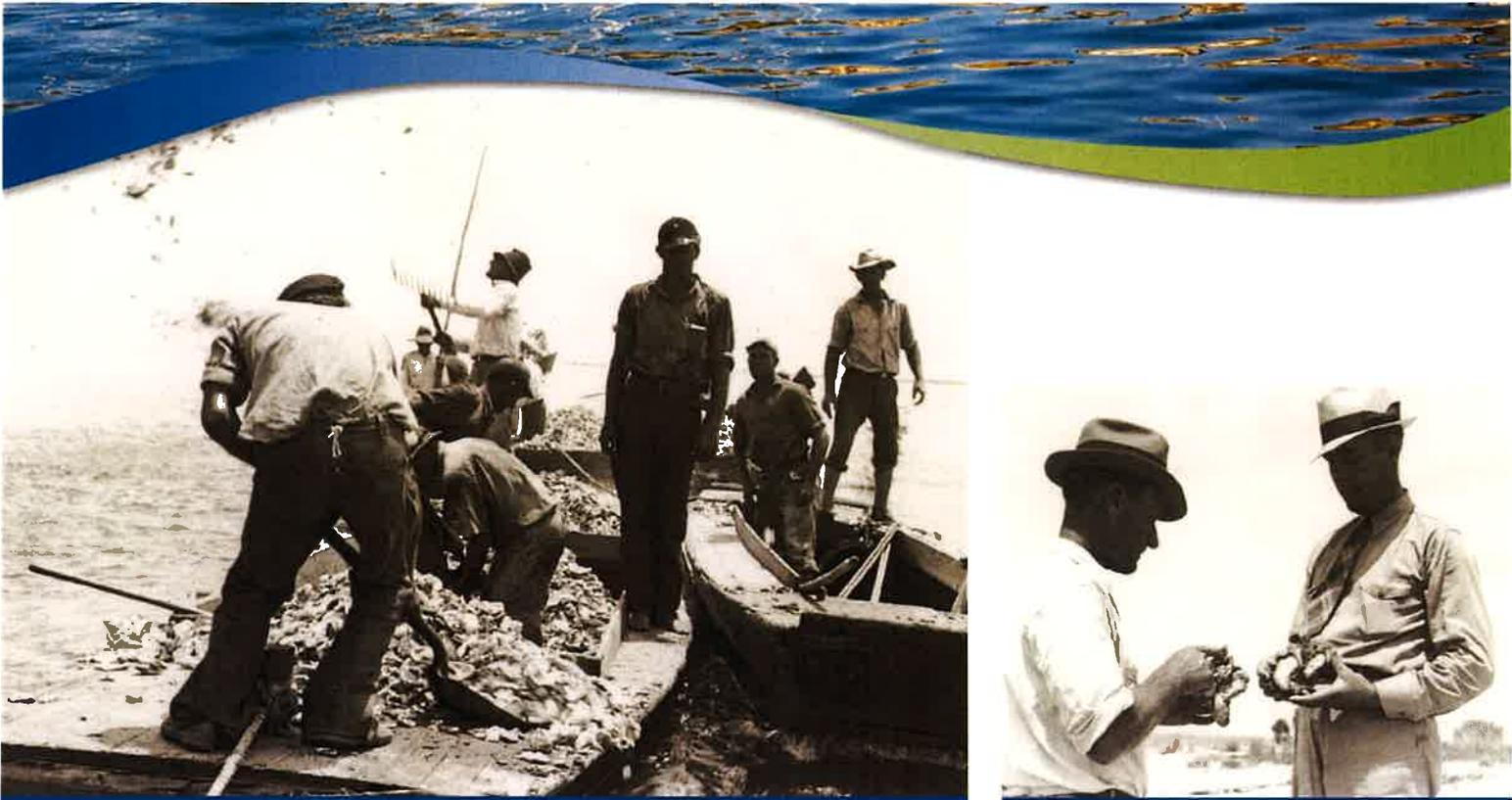
The vast area draining into **Weeks Bay** includes the Upper, Middle, and Lower Fish River and the Magnolia River watersheds. The Creek Indians, who preceded European settlers there, were mainly hunters and gatherers and sustained a population of 18,000 to 24,000 people. They thrived among the network of waterways, as evidenced by 25-foot-tall shell midden mounds still seen in southern Baldwin County. The establishment of Baldwin County (named for U.S. Senator Abraham Baldwin) in 1809, like Mobile County across the Bay, predated the founding of the State. The Weeks Bay WMP describes the Battle of Mobile Bay in some detail and the influx of Union veterans to the area following the Civil War. Unique to this Plan are accounts of the settlement of the many towns and communities lying fully or in part within this 203-square-mile drainage area, including Fairhope, Daphne, Spanish Fort, Loxley, Robertsedale, Silverhill, Summerdale, and Foley (*pages 2-49 through 2-53*).



Civil rights leader Jerry Pogue carries the flag in an April 7, 1968 march in memory of the slain Dr. Martin Luther King, Jr. March in Mobile, AL. Photo: Willbur F. Palmer Collection, Doy Leale McCall Rare Book and Manuscript Library.



Child laborers shuck oysters for Alabama Canning Company in Bayou La Batre in 1911. Photo: Lewis Wickes Hines, Library of Congress



*Bayou La Batre oystermen replenishing a reef with oyster cultch, 1938.
Photo: Alabama Dept. of Archives and History*



Julius Patronas and L.B. McAdams examining oysters in Mobile County, AL., 1938. Photo: Alabama Dept. of Archives & History

Folks living in the **Bayou La Batre Watershed** have depended on the abundance of coastal fishery resources for food and trade dating back to indigenous cultures over 8,000 years ago. The area was claimed by the French in 1699 and dubbed “the French Coast.” Original French settlers, including Joseph Bosarge, petitioned the Spanish Governor in 1786 for a tract of land on the west bank of the Bayou La Batre River. The petition was granted, and the name “Bayou La Batre” is derived from the artillery battery the French maintained there. Spanish settlers later moved into the area, and the resulting fusion of cultures was recognized for its seafood, cooking styles, and work ethic. By the late 1800s, the area was known for hotels, riverboat excursions, canning industries, and sport fishing, and a railroad brought tourists from throughout the nation to the waters of Portersville Bay. Hurricanes decimated the area in 1906 and 1916, and resilience became a key quality necessary for survival there. In the 1970s, during and after the Viet Nam War, an influx of immigrants from Southeast Asian nations assimilated into the local seafood industry as boat owners or seafood shop workers.

Hurricane Katrina in 2005 and the Deepwater Horizon oil spill in 2010 both dealt devastating blows to the area and its inhabitants, again testing resilience and forcing many to move from the area or pursue livelihoods less dependent upon coastal resources. Seafood harvesting and processing and shipbuilding remain the driving economic forces in the City of Bayou La Batre. But residents understand

the need for a more tangible ecotourism industry and the jobs it could bring, while preserving the natural beauty and heritage of the area (pages 125–126).

As WMPs continue to be developed for each of Alabama’s tidally-influence watersheds, they will provide added resources to the heritage and culture enjoyed by residents, visitors, and students.



*Southeast Asian immigrants arriving at Eglin Air Force Base in 1975
Photo: U.S. Air Force*

Two New Additions to the Mobile Bay National Estuary Program

The Mobile Bay National Estuary Program (MBNEP) announces the hiring of Sherry-Lea Bloodworth Botop to serve as Deputy Director of the Program and Katie Dylewski as Project

Manager. Bloodworth Botop has served as Director of Economic and Community Development for the City of Fairhope since 2017. Dylewski graduated from Auburn University with a M.S. in Horticulture and was employed by the University for five years.

Bloodworth Botop returned to the Alabama Gulf Coast in 2017 from Washington D.C., where she served as National Executive Director of the American Institute of Architects Foundation. She served on the first White House Innovation Initiative team under the President's Climate Action Plan and from this work was selected to participate



Sherry-Lea Bloodworth Botop



Katie Dylewski

Dylewski comes to the MBNEP having played a key role in developing the Low Impact Development Handbook for the State of Alabama and the Alabama Smart Yards Program. Her experience with watershed management planning, grant writing, teaching workshops, and stream restoration will serve her well as she oversees and coordinates restoration projects in both Mobile and Baldwin counties.

"Katie Dylewski brings a wealth of knowledge of watershed education, restoration, and problem solving. She was a tremendous asset to Alabama Extension Water Team and will hit the ground running to improve, protect, and restore coastal watersheds as a member of the MBNEP team," commented Eve Brantley Associate Professor and Extension Specialist, Auburn University and Alabama Cooperative Extension System.

in Harvard University's National Preparedness Leadership Initiative which she completed in 2015. She received the Points of Light Award for her recovery and rebuilding efforts following Hurricane Katrina.

"I look forward to working with Sherry-Lea in partnership with MBNEP. She is one of the most positive, collaborative people I've worked with," claimed Mayor Karin Wilson of Fairhope.

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Alabama Coastal Comprehensive Plan *Web-based Viewer Phase I*

By WILL UNDERWOOD, ADCNR, STATE LANDS DIVISION COASTAL SECTION ADMINISTRATOR

The Alabama's Coastal Comprehensive Plan (ACCP) has been designed as a proactive and stakeholder-driven planning tool for coastal Alabama. Given the rapid population growth in coastal Alabama coupled with the frequency and severity of natural disasters, the ACCP will play a vital role in helping to understand how our communities can best work together to protect and enhance, well into the future, the critical resources we all value.

Commissioned by the Alabama Department of Conservation and Natural Resources, the United States Army Corps of Engineers Mobile District (USACE) began the development of the ACCP by soliciting input from the general public and selected stakeholders to better understand what they value about Alabama's coastal resources and their social, economic, and environmental vision for the future of these resources. After thoroughly researching, cataloging, and mining existing management plans for visions and strategies that would result in a more resilient coast, the USACE began the process of integrating this information into an interactive GIS-based map viewer that will allow users to visualize how their resource-related values align with current and future coastal resource conditions.

The ACCP's web-based viewer combines state-of-the-art storm surge and sea level rise modeling with existing satellite-based maps to allow users to identify areas and resources which might be at risk from future storm surge and water level conditions. Users of the ACCP viewer can choose to view the average flooding extent of 50-year, 100-year, and 500-year return-interval storm surge events under current water level conditions and with the addition of one-half meter and one meter of sea level rise. By zooming in to areas of interest, users of the viewer can begin to understand the vulnerability of familiar areas to current and future storm surge events. The map viewer also allows users to geographically visualize current and future values and comments that were expressed during public and stakeholder forums. The comments can be sorted based on value area and highlighted to discover existing plans and documents that address the comments. This function of the viewer will be useful to planners and natural resource managers as they work to preserve and protect the valuable natural resources of the Alabama Gulf Coast.

The current iteration of the Alabama Coastal Comprehensive Plan web-based viewer can be found at: <https://www.sam.usace.army.mil/Missions/Program-and-Project-Management/Alabama-Coastal-Comprehensive-Plan/>. Stay tuned for the role-out of Phase II of the ACCP viewer, which will include an assessment of risk and resilience to risk for the Alabama Gulf Coast along with recommendations for mitigating hazard-related risks.

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.

Alabama Current Connection is produced biannually by the Mobile Bay National Estuary Program. Support is provided in part by the Alabama Department of Conservation and Natural Resources (ADCNR), State Lands Division, Coastal Section; the U. S. EPA; NOAA; and the Dauphin Island Sea Lab/Marine Environmental Science Consortium.

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:

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We reserve the right to edit submissions.

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Carl Ferraro Retires from State Service

On April 30, 2019, the Alabama Coastal Area Management Program bid a fond farewell to Carl Ferraro upon his retirement from State service after 25 years.

Carl received his Bachelor of Science in Wildlife Biology from Auburn University and began his work with the State of Alabama as an employee with the Alabama Department of Environmental Management (ADEM) Air Division in Montgomery in 1994. He transferred to the ADEM Mobile Field Office in May 1997 to serve as an environmental scientist with ADEM, where he began his career with the Alabama Coastal Program. At ADEM, Carl worked directly with the regulatory, monitoring, and compliance components of the program. In May 2004, Carl joined ADCNR-State Lands Division's Coastal Section, where his focus shifted towards coastal public access



projects, planning, grants management, and ecological restoration activities.

Following the *Deepwater Horizon* Oil Spill of 2010, Carl worked closely with ADCNR and other trustees on the Natural Resource Damage

Assessment and the restoration efforts that grew out of that process.

Carl's career has certainly made a lasting impression on Coastal Alabama! Carl represented the Department on numerous interagency and technical working groups and served as the State Lead for the Gulf of Mexico Alliance's Habitat and Conservation Coordination Team. For two decades, he actively coordinated efforts to map and monitor submerged aquatic vegetation along the Alabama coast, and was a project manager for ADCNR on two major restoration efforts in south Mobile County. Completed in 2010, the award-winning Little Bay Marsh Creation

project installed nearly a mile of wave attenuation devices and marsh enhancements to restore an eroding peninsula that was heavily impacted by Hurricane Katrina. Carl was also a project manager on the Marsh Island Restoration Project in Portersville Bay, which was completed in 2017. The Marsh Island project installed over a half mile of breakwater structures south of the island and restored approximately 50 acres of salt marsh community on the north side of the island.

"Carl and his family will be missed in Coastal Alabama, but his accomplishments provide us with a lasting legacy. Although he has retired from the State of Alabama, I'm confident that the next phase of his career will continue to produce successful restoration projects around the Gulf and beyond," said Hank Burch, Assistant Director, ADCNR, State Lands Division.

Eastern Shore

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County moves forward on boat launch plans

By GUY BUSBY
 guy@gulfcoastmedia.com

BAY MINETTE — After purchasing the land, efforts to build a new boat launch on the Intracoastal Waterway have moved to the next stage with the approval of funding to design the facility.

The Baldwin County Commission voted last month to approve spending up to \$400,000 to design the launch near the Foley Beach Express at Orange Beach.

Commissioners did not comment on the proposal when they voted unanimously to approve the project Tuesday. In an earlier work session, County Engineer Joey Nunnally said the facility could have up to 12 boat ramps and parking for 400 vehicles. He said the final number will depend on the design study.

"Part of the design process will be an analysis of exactly what size we may need today," Nunnally told commissioners. "We look at how many boats are registered in Baldwin County, how many boats are coming in from out of town, how many boats are going to come off the island in order to use the boat launch. At that point in time, we can decide, have a little bit more idea of the size that's needed and make a better decision."

He said Orange Beach officials have expressed con-

SEE **BOAT**, PAGE 3

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Gulf Coast Media

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 1 SECTION • 8 PAGES



TONY WHITEHEAD / STAFF PHOTO

AHSAA PLAYOFF SPOTLIGHT

Toros Draine named to state all stars

MONTGOMERY — Kris Abrams-Draine of Spanish Fort, has been chosen as a tight end on the All-Star squad, turned his talents to running back and piled up 258 yards rushing on 16 carries with four touchdowns as the Toros beat Wetumpka 63-21 in the second round of the Class 6A state playoffs.

He also completed his only pass for a 25-yard touchdown connection and also returned an interception 70 yards for a defensive TD.

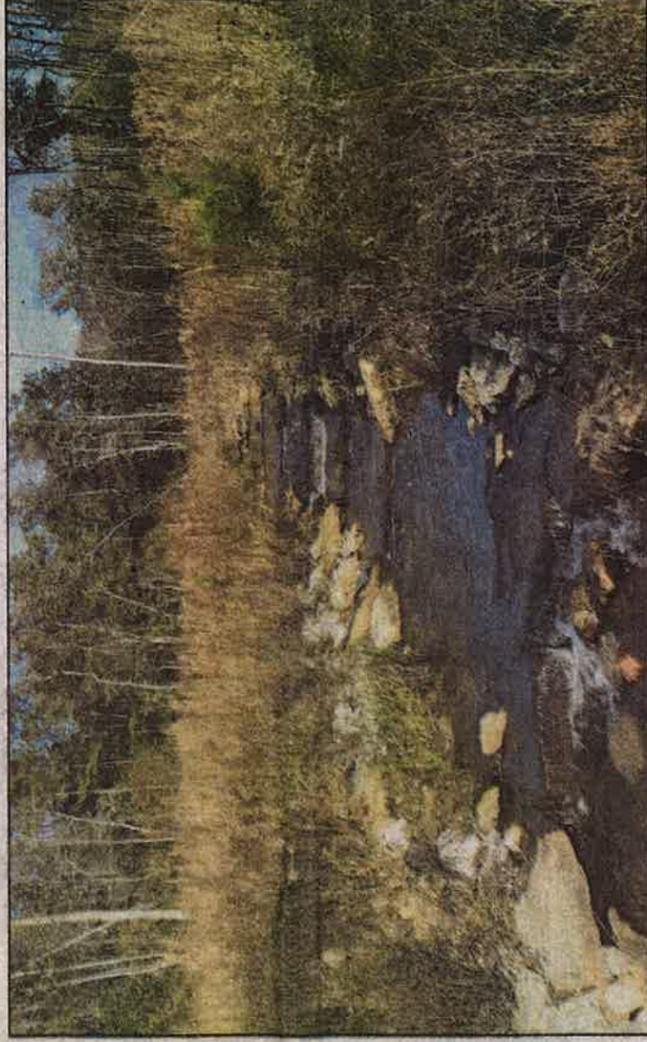
D'Olive Creek model for restoration

By GUY BUSBY
 guy@gulfcoastmedia.com

DAPHNE — A decade after the heavily eroded D'Olive Creek area was "the Grand Canyon of Baldwin County," the watershed is now being cited as an example of how stream restoration can control erosion and soil flowing into waterways.

During a recent workshop on watershed restoration, engineers, officials and environmental experts looked over areas in the 7,700-acre D'Olive Creek basin that also includes Joe's Branch, Thawassee Creek and other tributaries. Where gullies had been cut 20 feet deep in some places, the water flowed over rocks past banks covered in natural vegetation.

SEE **D'OLIVE**, PAGE 5



GUY BUSBY / STAFF PHOTO

Water flows over rocks in a step pool created on D'Olive Creek east of Baldwin County 13. The creek is part of a restoration program created to control erosion and sediment flowing into Mobile Bay.

'Inclusive park' to be place for all kids

By GUY BUSBY
 guy@gulfcoastmedia.com

DAPHNE — Eastern Shore community members need to raise \$350,000 if a park to allow all kids to play together — no matter what their physical abilities might be — can become a reality.

The Daphne-Spanish Fort Kiwanis Club is working with the city of Daphne and Exception Foundation Gulf Coast to raise the money needed to build an "inclusive park." The

park would be a playground that children both with and without disabilities can enjoy, Ray Moore, organizer of the project for the Kiwanis, said.

"Basically it's a playground for people with and without challenges," he said at an event to start fundraising efforts for "Project Sandbox," on Thursday. "It's for people to play side by side beyond the minimum accessibility requirements. To recognize

SEE **PARK**, PAGE 3



CITY OF BAY MINETTE

Baldwin County's only inclusive playground is in Bay Minette. Built in 2011, the Universal Playground park features typical playground equipment, but with a design that accommodates those with special needs. The play area includes zip slides, climbing walls, various slides, umbrella canopies and Americans with Disabilities Act-approved amenities. It also includes double ramps to allow for multiple wheelchairs, and the groundcover is concrete with a padding overlay to make it easier for wheelchairs to maneuver through the park.

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Blakeley State Park receives grant for bridge

The Gulf Coast RC&D Council awarded \$10,514.00 to Historic Blakeley State Park to aide in the construction costs for a vitally needed pedestrian, bike, and horse traffic bridge in an area of the park seeing a dramatic increase in visitation. The Park also created and installed two interpretive panels, built to National Park standards,

Education, and Natural Resources Conservation. The Gulf Coast RC&D Council serves Mobile, Baldwin, and Escambia Counties, and the Poarch Band of Creek Indians. The Gulf Coast RC&D Council, through support of local legislators, are dedicated to conserving, enhancing, and developing the Gulf Coast RC&D Council area.



SUBMITTED PHOTO

Pictured from left, Charlie Ramsey (GRC&D Executive Director), Representative Harry Shiver, Senator Greg Albritton, Mike Bunn (Director at Blakeley Park), Blaine Chastang (GRC&D), Rickey Fields (GRC&D)

Track and field



SUBMITTED PHOTO

Mrs. Menas' Honors chemistry classes made slime to demonstrate covalent bonds.

SFHS wrestling



SUBMITTED PHOTO

The wrestling team participated in Huntsville over the weekend and finished 6th of 28 as a team. Gabe Warren and Jake Snow were tournament champions and Noah Bauer finished in 2nd place. Chase Lee won 1st and Joey Reno came in 4th in the JV division.

Model United Nations



Model United Nations was very successful at Baldwin MUN Conference, winning multiple awards in groups and individually. Awards include: BEST SCHOOL, BEST DELEGATION, 4 PREMIER DIPLOMATS, 2 OUTSTANDING SPEAKERS, 1 PREMIER SPEAKER, 2 BEST CHAIRS. They won the most awards out of the entire county.

SUBMITTED PHOTO

D'OLIVE

CONTINUED FROM 1

"This was the Grand Canyon of Baldwin County," Greg Jennings, a consultant for the Mobile Bay National Estuary Program.

The Mobile Bay NEP was one of the organizers of the Gulf Coast Watershed Sustainability Workshop held Dec. 3 and 4 in Daphne.

For years, erosion had been a major problem along the creeks in the Daphne, Spanish Fort area. Runoff from construction of subdivisions, roads and shopping centers as well as other sources were major factors in the erosion, organizers said.

Marlon Cook, a hydrological consultant and who is retired from the Geological Survey of Alabama, said that along Joe's Branch, more than 100,000 tons of sediment was being washed away

each year. He said in a recorded statement played at the workshop that he was not aware of that much sediment being carried by any stream.

That eroded soil ended up downstream. The lake at Lake Forest subdivision was being filled in to the point that homeowners who once had waterfront property now had docks extending into swampy wetlands, Ashley Campbell, Daphne environmental programs manager, said. Sediment has clogged the channel near the city's D'Olive Bay boat launch to the point that Daphne recently received an \$800,000 grant to dredge the waterway.

About five years ago, the Mobile Bay NEP, local governments and other organizations began work to cut back on erosion and sedimentation. While some efforts had been tried in the past, most were

small "Band Aide" projects intended to protect roads or other areas, Jennings said.

The standard method for an engineering project might be to use concrete and steel. That would not work in these areas, he said.

"For the most part, you try to use natural materials. Rock, wood, living plants are the primary materials that we're implementing," Jennings said. "We're trying to stay away from sheet pile, concrete and other unnatural materials that are less sustainable. We're trying to make the system as ecologically sustainable as possible given the constraints."

Instead of water from storms flowing into pipes and down concrete channels, the water goes into a series of step pools and over rocks designed to absorb the energy of the current. When water levels rise after storms,



GUY BUSBY / STAFF PHOTOS

the excess flows onto flood plains where native plants help slow the flow and allow the water to soak back into the ground.

The program is working. At Joe's Branch, the sediment load has been cut from 100,836 tons per square mile to 9,759 tons.

"I have a chance to travel around the United States and other areas of the world and I often will show pictures of Joe's Branch stormwater step-pool conveyance as an example of using natural



materials to deal with a massive gully and how we can gain 99 percent sediment load reduction through this kind of rather affordable treatment system," Jennings said. "Instead of putting it in a pipe or putting it in a concrete channel, this rock step-pool is still doing its job and it's been tested thoroughly by Mother Nature."



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January 2020



Lake Forest Infrastructure and Capital Projects Updates

Roads, Sidewalks, Watershed and other Key Stuff

Written by Vice-President Victoria J. Phelps for January 2020 for LFPOA

Friends, Neighbors, and Local Associates,

This note is written to provide our community with positive news and updates for key Lake Forest City Infrastructure projects and for our large POA Capital Projects.

It has been nearly a year since my last note to you regarding updates for infrastructure and capital project updates for "our" beloved community.

With Board President John Lake at the helm, with help and support from the community, from our board-members, and from our managing partners at ICON, I have continued to work "to advocate", "to coordinate", and "to facilitate" improvements for our community while serving as our organizations Vice - President, Long Range Planning Chair, Grounds Chair and City Liaison. Project updates and sup-

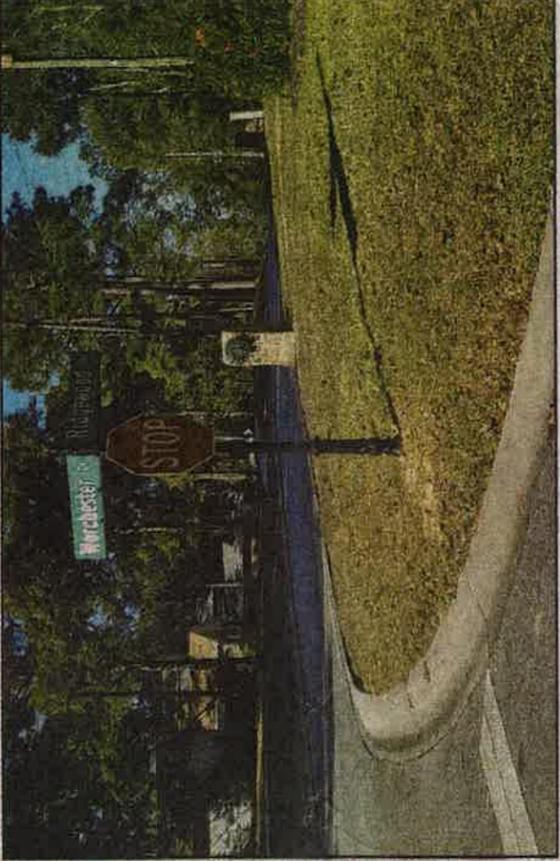


Victoria J. Phelps
Vice President, LFPOA

ported information as follows:

In 2019, our local City Government Representatives and Key City Staff have begun implementing both Road and Sidewalk Improvement Plans that were developed over many previous years, were finalized in 2018 and budgeted for in 2019. Key improvement projects are planned to continue beyond 2019.

We have received important consideration by our local leaders for these projects. All seven of our City Councilmen continue to provide needed leadership and guidance to enable these improvements. Our City Leaders have been doing a great job! Councilmen Lejeune, Councilman Coleman, and Councilman Scott in particular, have ensured we get our needed improvements planned and funded. Daphne Planning Executive



Decorative post with stop sign and street name

Director, Troy Strunk, and Daphne Public Works Director, Jeremy Sasser, and their Crews ensure these items get implemented within budget and with limited delays.

Road Improvements in 2019 and beyond; This year the city began to implement a city-wide 20-year phased road paving plan for all city owned and maintained roads. All city roads are organized by District and classified by condition. The selection of which roads will be scheduled for re-paving is to be based primarily on road condition classifications. The "worst" condition roads will be prioritized and targeted for re-surfacing. In Lake Forest we had several roads re-surfaced in 2019. Currently our city maintains about 140 total miles of roads throughout 7 Districts. The 20-year phased approach will enable nearly 5% of city owned roads to be re-surfaced annually does include all roads within Lake Forest. You can get more information regarding this by contacting the Councilmembers that represent your district and

Lake Forest; Robin Lejeune - District 6, Ron Scott - District 5, Joel Coleman - District 3 and Doug Goodlin - District 4. Additional paving in Lake Forest will dove tail nicely with previous years paving Ridgewood and Bayview which was accomplished from 2010 to 2014.

Sidewalks for Lake Forest in 2019 and beyond; Our installed sidewalk segments to date have been transformative by becoming a popular recreational item enjoyed by many. The "Goal" is still to create a more walkable community by installing Trails / Sidewalks from the Lawson Rd and County Rd 13 intersection through Lake Forest that will connect with Jubilee Shopping Center, to the Lake, to Central Park and ultimately to the North Main Highway 90 Gate Boardwalk. Our walkability improvements also provide safe routes to schools and to our own amenity locations such as our 3-three pools and parks.

After a two-year sidewalk project

SEE INFRASTRUCTURE, PAGE 8



James and Steven from Daphne Public Works at work installing new signage for Lake Forest

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BOARD OF DIRECTOR VACANCIES

There will be three vacancies on the Lake Forest Property Owners Association Board of Directors in March. Persons who are interested in consideration as a candidate for election to one of these positions should submit the following package of information to the Association office no later than 4:00 p.m. on January 15, 2020:

1. A photograph suitable for publication;

2. A detailed resume' or curriculum vitae;
 3. A short biographical summary that includes your reasons and qualifications to apply for a board position.

The package must be mailed through first-class mail, hand-delivered, or placed in the association drop box in a sealed envelope. No emailed information will be accepted.

INFRASTRUCTURE

CONTINUED FROM 1

install hiatus in Lake Forest from 2017 to 2018, the City returned to complete a new segment from our Windsor Entrance / at North Main and then connect with Ridgewood Drive to Bayview Drive at the "3-way triangle" intersection. Windsor Entrance medians were also improved with the removal of the older diseased Chinese Blue Oaks and the addition of American Holly Trees. All medians were groomed and graded with new sod installed.

Additional sidewalk segments for our neighborhood are planned for 2020 and beyond as part of the City

– Wide multi-year plan. For 2020, there is still some debate to as to the direction to continue with the next segment from Ridgewood Pool connecting with Bayview, or to install another needed segment such as along Bayview Drive or along the southern of Ridgewood Drive from the triangle to our Montclair Pool. Our utility power easement is also an option for passive trail connectivity that is planned for future improvements. Our sidewalks enable us to be better connected to each other and to the rest of our city.

Street Signs Decorative Post Install 2019; Our next phase for the change out of decorative posts is in progress and will be completed by the end of the year from Lawson to

Bayview. There are future phases planned with Windsor to the "triangle" being planned for early 2020.

Tiawassee and D'Olive Creek Stormwater - Watershed Projects for 2019; Mobile Bay National Estuary Program (MBNEP) is now coordinating with Volkert Engineering and Northstar a nearly 1,400 FT length stormwater control improvement project for Tiawassee Creek adjacent the south side of Montclair Loop. All legal "right of entries" have been signed and the project is underway scheduled for completion in about 120 days. Stormwater control improvements to the main stem of D'Olive Creek and the adjacent drainage line near hole number 9 of the golf course was nearly completed in 2019. MBNEP is coordinating with Mott, McDonald Engineering and Northstar to complete this project by Jan 2020. The creek projects will complete all planned stormwater work for the D'Olive Watershed which will clear the way for the Lake Forest Lake to be considered as a future project. City of Daphne's Ashley Campbell along with local Civil Engineers John Peterson and Andy James have contributed mightily to these highly successful and important flood control projects for our community.

Lake Forest Pools and Parks in 2019; No significant improvements were accomplished this year at these amenity venues apart from monitored security systems combined with active pool monitors were added to improve the member experience. Bench seating for all playground parks were completed early in 2019 along with final out fitting of final commercial pool loungers, tables and umbrellas. This was a year to operate and maintain these improved venues at a higher level from 1 April to 31 October.

Yacht Club Renovation in 2019; All structural support piles for this facility were repaired by either being encapsulated or wrapped as necessary in order to extend the building lifespan. Exterior and Interior



Design, planning, and cost gathering for this repair / renovation project has been underway most of 2019. Information will be forthcoming in 2020 once all necessary and relevant information has been gathered for consideration and for approval; then the project can be triggered for permit / completion.

"OLDE Town Daphne" Scenic 98 Speed Limit Reduction to 25 MPH; Recently the City Council voted to reduce the speed limit on Scenic 98 for 1.5 miles from Santa Rosa Avenue at Daphne Elementary then southward to WJ Carroll Intermediate School in order to improve pedestrian safety along this corridor as there are 3 schools, several parks, and eateries with increased foot traffic to protect.

In closing; A new year is just around the corner, and with the New Year ahead we have some systemic challenges that remain to be solved, so let's keep moving forward, step by step, inch by inch, together. Wishing you and all those you love a Happy, Heartfelt Holiday Season as well as a meaningful and successful 2020!!

LakeForestDaphne.com



For more information, contact
 Daphne Public Works at 251-625-2100.

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- DAPHNE BEAUTIFICATION COMMITTEE

* Please provide a photo id for proof of Daphne residency

JOIN US FOR:

- PLANTING & CARE LEARNING STATION
- COMPOSTING ADVICE
- RAIN BARRELS
- EDUCATIONAL EXHIBITS
- PET ADOPTION

SATURDAY, MARCH 7, 2020

8am - 9am Daphne Residents Only
 9am - 11am Open to All Others

THE PLAZA AT DAPHNE PUBLIC LIBRARY

**OVER 3,500 TREES
 WILL BE GIVEN AWAY!**

Daphne



CHRIS FRANCIS TREE CARE
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www.chrisfrancistreecare.com

Licensed, Bonded, Insured, & Workers Comp.

TREE SERVICE CHRIS FRANCIS:

- TREE REMOVAL
- TREE PRUNING
- STUMP GRINDING
- CONSULTATIONS
- TREE PROTECTION
- PLANT HEALTH CARE
- ISA Board Certified Master Arborist (#60-61578)
- ISA Tree Risk Assessment Qualification
- Alabama State Licensed:
 - Tree Surgery
 - Landscape Design
 - Settling of Landscape Plants
- Ornamental & Turf Pest Control Supervisor
- ANLA Certified Landscape Professional
- AUIFA Urban Forestry Certification

Call Chris Francis Tree Care
 for all your tree service needs

Call 251-FOR-TREE (251-367-8733)

WE CLEAN DIRTY RUGS

Floor Medic

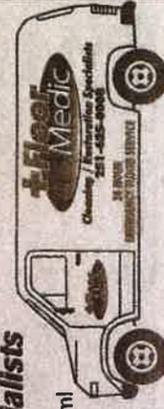
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floor-medic.com

Cleaning and Restoration Specialists

Carpet • Wood • Tile • Stone • Upholstery
 Area Rugs • Pet Stains & Odors--No Problem!

24 Hour Emergency Water Extraction

Your Premier Floor
 Cleaning Company



6 • The Lake Forester • February 2020

Lake Forest Women's Club



Our guest speaker Ashley Campbell, Environmental Program Manager for the city of Daphne who spoke on the Village Point Foundation and Village Point Park Preserve.

MCM 1

3.1.B.1.2a EPA Stormwater Outreach Documents

EPA Stormwater Outreach Tools and Documents
The Role of Local Governments in Implementing the NPDES Stormwater Program for Construction Sites (PDF)
How Do I Get Stormwater Permit Coverage for My Construction Site? A Construction Site Operator's Guide to EPA's Stormwater Permit Program (PDF)
After the Storm Brochure (PDF)
Make Your Home the Solution to Stormwater Pollution Brochure (PDF)
Stormwater and the Construction Industry Poster (PDF)
Water Efficient Landscaping (PDF)
Door Hanger: "Stormwater Pollution Found in Your Area!" (PDF)
Kid's Stormwater Stickers (PDF)
Bookmark: "10 Things You Can Do to Prevent Stormwater Runoff Pollution" (PDF)
Placemat: "Take the Stormwater Challenge" (PDF)
Protecting Water Quality from Urban Runoff (PDF)
Cleaning Up Polluted Runoff with the Clean Water State Revolving Fund (PDF)
Innovative Use of Clean Water State Revolving Funds for Nonpoint Source Pollution (PDF)
Funding Decentralized Wastewater Systems Using the Clean Water State Revolving Fund (PDF)
EPA Non-point Source Tool Box

MCM Education Outreach
3.1.B-1.2b Brochures and Locations

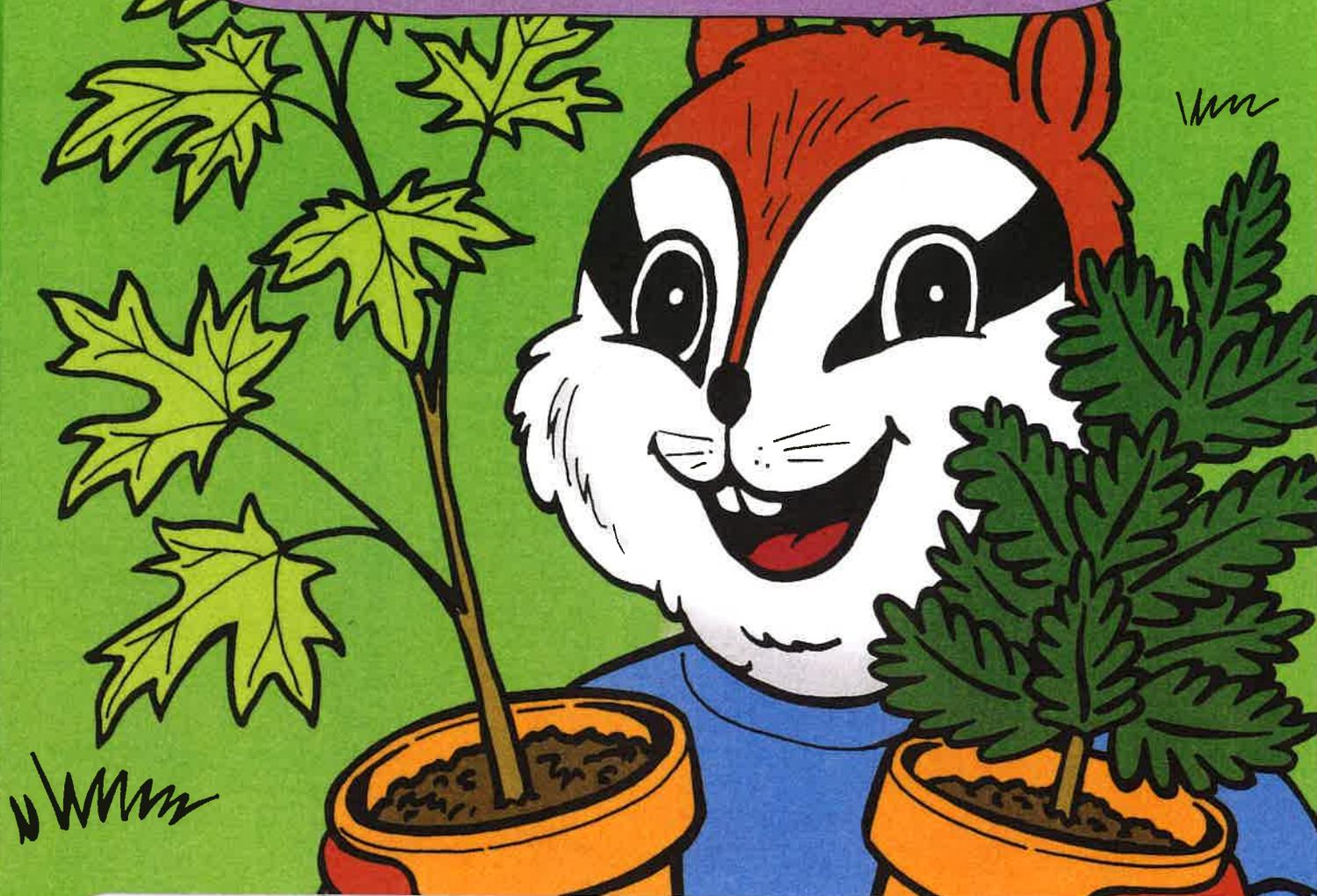
ID #	Brochure	Applicable Minimum Control Measure	Source	Distribution Location
1	Clean Water Future Brochure	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
2	Clean Water Future Clean Environment Coloring Book	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
3	CBMP Plans Brochure	1&3	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
4	Illicit Discharge Detection & Elimination	1&2	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
5	Just Say No to Plastic	1	City of Daphne, MBNEP, Baldwin County	Building Department, Public Works, City Library, & Recreation Department
6	Phase II MS4 Brochure	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
7	Proper Disposal of Expired and Un-needed Medication New	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
8	Off Road Vehicle Owners CWF Brochure	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
9	Rain Barrel Brochure- Updated	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
10	Rain Garden Design-ACES Master Gardners	1&4	ACES	Alabama Cooperative Extension Systems Master Gardner's
11	Recycle Brochure- Updated	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
12	Storm Drain Protection	1&4	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
13	Stormwater Pond Maintenance	1&4	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
14	The 10 Best Native Trees	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
15	The 10 Best Native Shrubs	1	City of Daphne	Building Department, Public Works, City Library, & Recreation Department
				Community Development Location Removed

MCM 1 EO/PP
3.1B-1.2b/c/d Education Outreach Brochures
Tracking System

2018-2019 Permit Year Brochure/Publication Name	Applicable Minimum Control Measures	Year	Public Works	Library	Community Development	Building Inspections	Recreation Department
Phase II MS4 Brochure	1	2020	25	25	0	25	25
Create a Clean Water Future (CCWF) Campaign Brochure	1	2020	25	25	0	25	25
CWF Clean Environment Coloring Book	1	2020	25	25	0	25	25
Just Say No to Plastic	1	2020	25	25	0	25	25
Medication Disposal (2019) New	1	2020	25	25	0	25	25
Off Road Vehicle Owners CWF Brochure	1	2020	25	25	0	25	25
Rain Barrel Brochure	1 & 4	2020	25	25	0	25	25
Recycle Brochure-Updated <i>Recycle Program Temporarily Suspended</i>	1	2020	0	0	0	0	0
The 10 Best Native Trees	1	2020	25	25	0	25	25
The 10 Best Native Shrubs	1	2020	25	25	0	25	25
Illicit Discharge Detection & Elimination & CCWF Brochure	2	2020	25	25	0	25	25
HBAA Field Guide for Erosion & Sediment Control-CWF	3	2020	25	25	0	25	25
CBMP Plans Brochure	3	2020	25	25	0	25	25
Storm Water Basin Maintenance (2019) New	4	2020	25	25	0	25	25
Glove Box Guide to Clean Water (2019)	1&5	2020					
					Location Removed Not Productive		
Other Publications Not Tracked							
ACES Water Conservation Wheel							
ADEM Erosion and Sediment Control Brochure							
Alabama Water Watch Brochure							
Auburn/ACES Invasive Plants Brochure							
Auburn Rain Garden Design for Home Owners							
Auntie Litter's ABC							
EPA NPS Tool Box Items							
Field Guide to the Identification of Cogon Grass							
4H Alabama Water Watch Brochure							
Greener By The Yard							
HBAA Controlling Erosion and Sediment in Home Building							
Master Environmental Education Flyer							
MBNEP Estuaries are Puzzles							
MBNEP Understanding Your Stormwater Management Plan							
Create a Clean Water Future-MCM 1							
MBNEP D'Olive Watershed Case Statement							
MBNEP-Clean Water Future Join Today							
Sea Grant Invasive Beach Vitex							

CHILDREN'S EDUCATIONAL COLORING & ACTIVITY BOOK

KIDS CARE FOR A
CLEAN ENVIRONMENT




Daphne
ALABAMA

www.CleanWaterFuture.com

Environmental Programs
1705 Main Street
Daphne, AL
251-620-1500

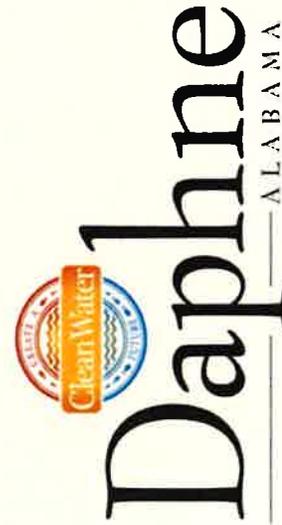
Why Daphne?

As an ADEM Permitted Phase II Municipal Separate Storm Sewer System the City is always looking for ways to affordably reach its permit goal of educating and involving citizens in ways to improve our local streams water quality (watershed stewardship).

The City has an extensive Storm Water Management Program Plan (SWMPP) which details the goals and strategies for reaching our citizens with this effort. The City of Daphne's has embraced the effort by partnering with the Create a Clean Water Future team. We are using the education outreach materials to educate our newly elected officials, our city employees and the citizens of Daphne.

Our goal is to assist in promoting this campaign to a State Wide Level.

Education is the key to success in all endeavors....Join us in **Creating a Clean Water Future** for tomorrow and generations to come.



The Jubilee City
Daphne Environmental Programs
www.daphnal.com
251-620-1500

How can You get involved?

This new initiative was designed to help preserve our state's unique legacy of sea-food rich waterways, beautiful natural habitats and a way of life built on the water.

So, if **you** love to eat Alabama seafood, play or work on Alabama's waters, or want to protect the health of your family and community...

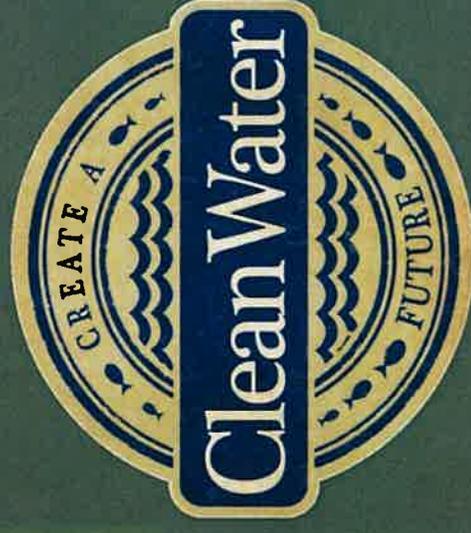
...the **Create a Clean Water Future** campaign has three easy ways **you** can become part of the solution:

Step up – Whether it's on the boat, in the backyard, or on a walk with the dog, taking simple steps every day to keep pollutants and toxins out of **our** waterways can have a huge impact.

Speak up – Let **your** voice be heard with local officials, policymakers, and the media to make sure stormwater runoff is on the agenda.

Follow up – If **you** see trash, erosion, or other signs of stormwater runoff, report.

Join today...
*Create A
Clean Water Future
tomorrow*



Join the campaign visit
www.CleanWaterFuture.com.

For more information please contact the
Mobile Bay National Estuary Program
118 N Royal Street Suite 601 Mobile, AL 36602
251.431.6409 | mbnep@mobilebaynep.com

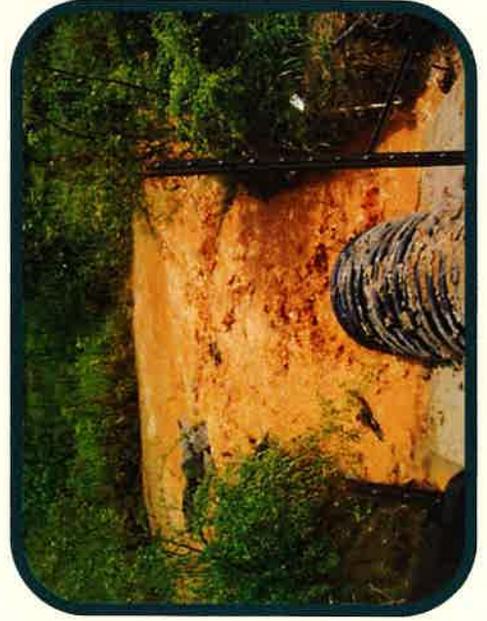
What is...

Create a Clean Water Future?

Create a Clean Water Future is a public service campaign to help residents of Alabama learn more about stormwater runoff and its impacts; increase demand for stormwater management programs; and provide tools that empower Alabama residents to reduce polluted runoff in our waterways.

The *Create a Clean Water Future* campaign focuses on the serious issue of polluted stormwater runoff in Alabama's creeks, streams, rivers and bays and the simple steps citizens can take to help solve the problem.

The public awareness and action campaign includes public service announcements, user-friendly online resources, information, and take-action tools.



At Home



- Wash your car on the grass or at a commercial car wash to reduce the amount of soap and dirt running into storm drains.
- Bag or compost your leaf and grass clippings to prevent clogged storm drains.
- Pull weeds by hand and avoid using pesticides and herbicides. If necessary, use sparingly and as directed.
- Look for biodegradable household cleaners. Dispose of household chemicals and cleaner containers as directed.
- Sweep your drive rather than hosing it down to prevent toxins like oil and antifreeze from polluting waterways.
- Clean up oil and other car fluids immediately using rags or cat litter.
- Scoop, bag and throw pet waste in the garbage.
- Routinely check and maintain septic tanks.

At Work



- Make sure your workplace has adequate trash and recycling facilities.
- Keep construction areas clean and free of litter and extra building materials.
- Dispose of all workplace chemicals properly.
- Prevent sediment from construction sites from flowing into storm drains, rivers and streams.
- When landscaping plant native species or drought resistant varieties to reduce irrigation and the use of fertilizer and chemicals.

At Play



- Keep litter out of pickup truck beds and cover loads so items aren't blown to the ground.
- Clean up after yourself when hunting or fishing to prevent trash, bait containers, cigarette butts and food wrappers from polluting water and woodlands.
- Look for all natural and biodegradable sun protection to use when swimming.
- Do not discharge raw sewage from boats.
- Volunteer for community cleanup initiatives and restoration projects at local recreation areas and parks.

Today individuals, families and businesses are making a real difference in curbing harmful stormwater runoff by following these simple steps.

Together we can eliminate the litter, vehicle leaks, landscape clippings and other pollutants that poison our waterways.

Visit www.CleanWaterFuture.com to find out how you can get involved with the **Create a Clean Water Future** campaign and to access information, links to resources and downloadable tools to get started making a difference today.



CBMPP
INSPECTION & MAINTENANCE

Your site's BMPs require inspection and maintenance. You shall:

- Ensure proper implementation, daily observation, regular inspection and continual maintenance of effective Best Management Practices to prevent offsite impacts and impacts to downstream water quality.
- In the event the Best Management Practices are found to be in need of maintenance or improvements, the permittee shall commence and implement all necessary maintenance and corrective measures to the Best Management Practices within forty-eight (48) hours of notice unless prevented by unsafe weather conditions.



The Jubilee City



Thanks for protecting the environment by implementing Best Management Practices on your construction site. By stopping harmful pollutants from leaving your construction site you are **Creating a Clean Water Future** for generations to come.....visit our website at www.createacleanwaterfuture.com.



City of Daphne
PO Box 400
Daphne, AL 36526
Phone: 251-620-1500
E-mail: acampbell@daphneal.com
www.cleanwaterfuture.com

CONSTRUCTION BEST MANAGEMENT PRACTICES PLAN (CBMPP)



ENVIRONMENTAL
PROGRAMS

CREATING AND IMPLEMENTING
AN EFFECTIVE CBMPP

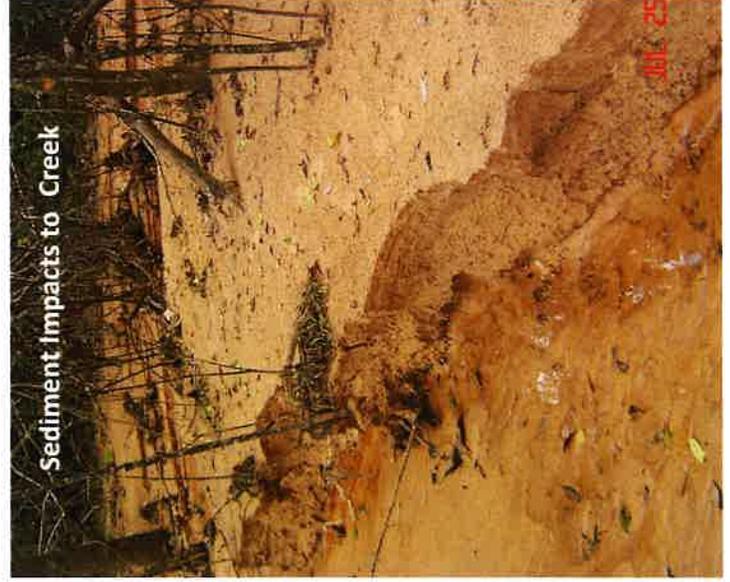


SEDIMENT IMPACTS TO STREET



CBMPP BASICS

Construction Best Management Practices (CBMP) are measures you take to reduce pollutants from leaving your site and causing impacts to local waterways and private and public property. The measures can include many steps, from site phasing to stabilized construction entrances. New state and local stormwater regulations require builders and developers to have CBMP Plans that address site specific BMPs. In order to acquire a land disturbance permit in Daphne, you will need to address the applicable BMPs listed in this brochure and any other needed to aid in preventing offsite impacts.



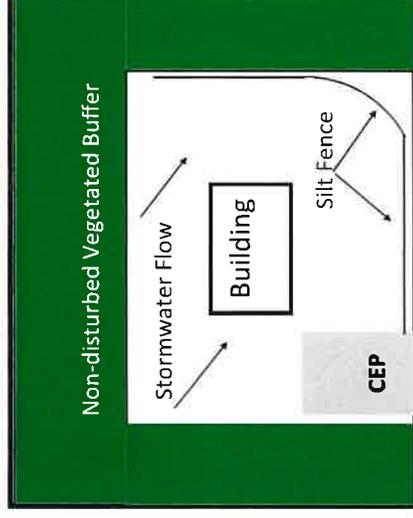
BEST MANAGEMENT PRACTICES (BMPs)

Your CBMP Plan should be a plot plan detailing the chosen best management practices, including but not limited to the BMPs listed below:

- Ensure implementation of effective BMPs for erosion and sediment control.
- Ensure proper onsite containment and disposal of all construction building materials, supplies, vehicle washing, concrete washout, paint, trash, debris, fertilizers, pesticides, herbicides, detergents sanitary waste and any other solid waste or wash water.
- Minimize the discharge of any pollutants resulting from a spill or leak from vehicles, mechanical equipment, and chemical or fuel storage.
- Stabilize all construction entrances and exits to minimize off-site tracking of sediment from vehicles.
- Minimize the generation of dust during construction
- Minimize the disturbance of steep slopes, unless infeasible.
- Minimize the amount of soil exposure and compaction during construction activity.
- Temporarily stabilize all disturbed areas where construction activity has ceased for a period exceeding thirteen (13) calendar days.
- Inspect and maintain site BMPs, following every rain event.

ADDITIONAL MEASURES

- Provide the necessary measures to ensure that drainage structures important to overall Storm Water Management and control are not adversely affected by clearing, grading, or any other land disturbing activities and shall permanently stabilize any right-of-ways disturbed during construction.
- All onsite and offsite areas disturbed during construction shall be permanently stabilized prior to issuance of a Certificate of Occupancy.



Example of CBMPP on Site/Plot Plan:
Not to Scale

ALL BMP DESIGN SHOULD BE BASED ON THE GUIDANCE IN THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS. A COPY OF THE LATEST EDITION CAN BE FOUND ON THE ALABAMA SOIL AND WATER CONSERVATION COMMITTEE'S WEB PAGE (WWW.SWCC.STATE.AL.US)

What is...

Create a Clean Water Future?

Create a Clean Water Future is a public service campaign to help residents of Alabama learn more about stormwater runoff and its impacts; increase demand for stormwater management programs; and provide tools that empower Alabama residents to reduce polluted runoff in our waterways.

The **Create a Clean Water Future** campaign focuses on the serious issue of polluted stormwater runoff in Alabama's creeks, streams, rivers and bays and the simple steps citizens can take to help solve the problem.

The public awareness and action campaign includes public service announcements, user-friendly online resources, information, and take-action tools.

Thanks for protecting the environment.

By "Identifying and Reporting Illicit Discharges", you are **Creating a Clean Water Future** for generations to come.....visit our website at www.cleanwaterfuture.com.

Daphne is working to
**Create a Clean Water
Future** for generations
to come.....



Illicit Discharge & Detection

Easy steps to help
YOU

**Create a Clean Water
Future**
By

**Identifying and reporting
Illicit Discharge!**



The Jubilee City



**City of Daphne Environmental
Programs**

1705 Main Street

PO Box 400

Phone: 251-620-1500

Web: daphneal.com

What is an Illicit Discharge ?

The U. S. Environmental Protection defines an illicit discharge as “any discharge into a municipal; storm drain that is not composed entirely of stormwater”. Some of the pollutants that are considered illicit discharge are:

- Car wash wastewater
- Gas and motor oil
- Household cleaners, oils and grease
- Paint and paint brush wash water
- Pesticides & Weed Killer
- Leaking septic tanks
- Suspended sediment



Illicit discharges are carried through the storm drain systems by rain, wind or improper disposal to our streams. This can result in serious health and water quality problems. In addition, wildlife habitat and the appearance of City’s streams can be adversely affected by the illicit discharge.

How can *You* get involved?

Identify and report illicit discharges to the City’s drainage system to help preserve our streams and protect the health of your family and community.....There are several easy steps to *you* becoming part of the solution:

Step up – Never pour anything into our storm drains or directly into a stream; let’s keep pollutants and toxins out of *our* water-ways. Some easy steps to prevent illicit discharges;

- 1) Recycle all used motor oil, batteries, and antifreeze at your local auto parts. Clean up all spills with kitty litter or saw dust and properly dispose in trash.
- 2) Recycle used cooking oil & grease with Daphne Utilities.
- 3) Wash your car on grass so that the washer, detergent and dirt will be filtered by the soil or take your car to a commercial car wash where the dirty water is sent to the waste water treatment plant.
- 4) Dispose of household cleaners, pesticides, and weed killers according to the labels directions. Many household products including paint, paint thinner, and solvents can be taken to Baldwin County Landfill or disposed of at the annual Household Hazardous Waste Day in January of each year.
- 5) Make sure that washing machines drain into the sanitary sewer system. Laundry wastewater should not be piped into the yard or ditch.
- 6) Swimming pool backwash should not be discharged directly into a storm drainage system.



Speak up – Report any illicit discharges or connections to your local government or to the appropriate agency.

Local-City of Daphne
Environmental Programs
(251) 234-7122 (Phone or text)

State –Alabama Department of Environmental Management (ADEM)
(251) 450-3400

Federal –Environmental Protection Agency (EPA)
1 (800) 241-1754

Follow up – Make sure that the illicit problem has been resolved by following up with the proper agency.



Advantages of using cloth bags:

1. They are inexpensive and widely available.
2. Each bag holds two to three times more groceries than a plastic bag, and they don't break or require double-bagging.
3. They are made of hemp, recycled cotton or plastic and do not harm the environment.
4. Retailers actually save money when not forced to buy and distribute single-use HDPE, paper, or compostable paper bags.
5. By using cloth bags, each one of us could save 432 plastic bags per year!



Thanks for protecting the environment .
By "Just Saying No, to Plastic Bags",
you are **Creating a Clean Water Future**
for generations to come.....visit our web-
site at www.cleanwaterfuture.com.

City of Daphne Environmental Programs

1705 Main Street
PO Box 400
Daphne, AL 36526
251-620-1500

Information compiled from the
Mobile Bay National
Estuary Program



Plastic Bags, Just Say NO!



Reduce, Reuse, Recycle!



Plastic Bags, Just Say No!

The U. S. Environmental Protection Agency estimates that between 500 billion and one trillion single-use, high density, polyethylene (HDPE) plastic bags, like the ones you receive from the grocery store, are added to the global waste stream every year.



- In Mobile & Baldwin Counties, an estimated **143 million** plastic bags were distributed to consumers in 2006.
- An estimated **8 billion pounds** of plastic bags, wraps, and sacks enter the waste stream every year in the U.S. alone, putting a burden on our diminishing landfill space and causing air pollution if incinerated.
- Plastic bags take up to **1000 years** to degrade.
- Between **15 and 30 billion** plastic bags are discarded directly into the world's waters and environments **every year**.

Plastic bags break into smaller pieces and more toxic substances that spread across soils, waters, and bottomlands and find their way into aquatic food chains. Bags kill the birds, fish, mammals, and sea turtles that become entangled or try to eat them. They also spoil the beauty of our coastal environment and they block storm water drains which leads to flooding.

Globally, plastic is found in all the world's oceans from our polar regions to the equator. The Great Pacific Garbage Patch, formed by ocean currents and located in the center of the North Pacific Gyre, is twice the size of Texas.

For more information visit the website: <http://www.greatgarbagepatch.org/>



Did you know?

Plastic bags are made from oil and/or natural gas. Plastic is a by-product of oil refining and accounts for 4% of the world's total oil production. Not only does this decrease our shrinking oil supply, it also increases our dependence on foreign sources. The cost of recycling HDPE bags is very ex-

pensive-It costs \$4,000 to recycle one ton of single-use plastic bags. The material recovered from this effort is worth \$32 on the commodities market. Consequently, less than one percent of all plastic bags produced are recycled. Even the bags reused for household trash or pet waste ultimately end up in landfills. The answer is simple. Using cloth

What is the solution?

reusable bags is an easy and environmentally friendly alternative to plastic. They don't litter the landscape, fill landfills, clog storm drains, kill marine life, or increase oil demand from the Middle East, Venezuela, or even the Gulf of Mexico. Carrying your own cloth bags to the grocery store is a small way for citizens to make a big difference.



Daphne Environmental
Programs

Phone: 251-620-1500

Email: acampbell@daphneal.com

E.S. MS4 Storm Water Education Outreach Team

Education Outreach Goal

This brochure is one of a series of publications regarding storm water issues along the Eastern Shore of Mobile Bay.

The series is produced by the Eastern Shore MS4 Stormwater Education Outreach Team and is intended to educate citizens, students, business owners and other professionals on how to protect, maintain, and restore the chemical, physical, and biological integrity of local rivers and streams in order to enhance the quality of life for all Eastern Shore residents.

Education Outreach Strategy

Baldwin County, Daphne, Fairhope and Spanish Fort are working together in this education effort to show the importance of stormwater management. This team effort is a cost effective approach to County wide education and helps prevent duplication of efforts. We are proud to work towards *creating a clean water future for all* (www.cleanwaterfuture.com).



Daphne
ALABAMA

The Jubilee City



Other Local Outreach Opportunities!



Local Rain Barrel Workshops



Benefits of Native Plant Workshops



Natural Stream Restoration Workshops

What is a

Phase II

Small MS4?



Healthier streams provide a benefit to all.

For more information regarding your community's storm water program please contact the following agencies:

CONTACT INFORMATION

Baldwin County – Engineering Department
251-580-1655
www.baldwincounty.al.gov

City of Daphne – Environmental Programs
251-620-1500
<http://www.daphneal.com>

City of Fairhope – Planning Department
251-990-2877
www.co.fairhope.com

City of Spanish Fort – Building Department
251-626-4993
www.cityofspanishfort.com



E.S. MS4 Stormwater Education Outreach Team

WHAT IS A MS4?

MS4 is an acronym that stands for *municipal separate storm sewer systems*. Basically, this term includes all municipal stormwater pipes, ditches and other infrastructure which convey (transport) stormwater from municipal streets and developed areas and discharges the stormwater into local rivers and streams.

WHY SHOULD YOU CARE?

Stormwater runoff is transported by municipal separate storm sewer systems (MS4s) and ultimately discharged into local rivers and streams. Pollutants can enter the MS4 system and be discharged without treatment. EPA's Stormwater Phase II Rule establishes an MS4 stormwater management program that is intended to improve the Nation's waterways by reducing the quantity of pollutants that stormwater picks up and carries into storm sewer systems during storm events. Common pollutants include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers, and plastic bottles. When deposited into nearby waterways through MS4 discharges, these pollutants can impair the water-



ways, thereby discouraging recreational use of the resource, contaminating drinking water supplies, and interfering with the habitat for fish, other aquatic organisms, and wildlife.

EPA RULES:

In 1990, EPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) stormwater program. The Phase I program for MS4s requires operators of "medium" and "large" MS4s (City of Mobile), that is, those that generally serve populations of 100,000 or greater, to implement a stormwater management program as a means to control polluted discharges from these MS4s. The Stormwater Phase II Rule extends coverage of the NPDES stormwater program to certain "small" MS4s, such as Daphne, but takes a slightly different approach to how the stormwater management program is developed and implemented.

WHAT IS A PHASE II SMALL MS4 ?

A small MS4 is any MS4 not already covered by the Phase I program as a medium or large MS4. The Phase II Rule automatically covers on a nationwide basis all small MS4s located in "urbanized areas" (UAs) as defined by the Bureau of the Census (unless waived by the NPDES permitting authority), and on a case-by-case basis those small MS4s located outside of UAs that the NPDES permitting authority designates.

Who is a Phase II Small MS4 ?

Fairhope, Daphne, the City of Spanish Fort and a portion of Baldwin County are currently the County's only designated Phase II Small MS4s.

WHAT ARE THE PHASE II SMALL MS4 EPA PROGRAM REQUIREMENTS?

Operators of regulated small MS4s are required to design their programs to:

- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

Implementation of the MEP standard will typically require the development and implementation of Best Management Practices (BMPs) and the achievement of measurable goals to satisfy each of the programs five minimum control measures.

The Phase II Rule defines a small MS4 stormwater management program as a program comprising the five elements that, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving water bodies.

The five MS4 program elements, termed "minimum control measures," are outlined in the adjacent pane. For more information, visit <http://www.epa.gov/npdes/pubs/fact2-0.pdf>.

FIVE (5) MINIMUM CONTROL MEASURES

1. Public Education and Outreach

Distributing educational materials and performing outreach to inform citizens about the impacts polluted stormwater runoff discharges can have on water quality.

Public Participation/Involvement

Providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a stormwater management panel.

2. Illicit Discharge Detection and Elimination

Developing and implementing a plan to detect and eliminate illicit discharges to the storm sewer system (includes developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste).

3. Construction Site Runoff Control

Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb 1 or more acres of land (controls could include silt fences and temporary stormwater detention ponds).

4. Post-Construction Runoff Control

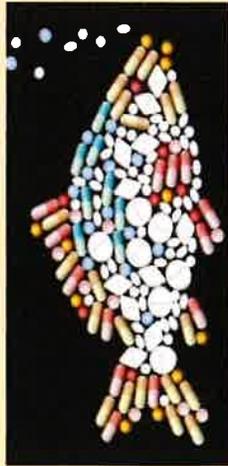
Developing, implementing, and enforcing a program to address discharges of post-construction stormwater runoff from new development and redevelopment areas. Applicable controls could include preventative actions such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs such as grassed swales or porous pavement.

5. Pollution Prevention/Good Housekeeping

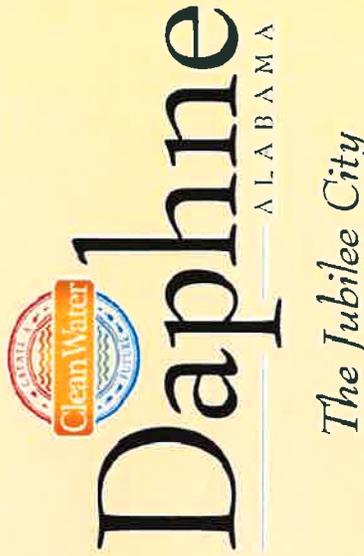
Developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning).

Pharmaceuticals in Our Environment

Residues of various types of medicinal products such as hormones, anti-cancer, antibiotics, and antidepressants have been detected in our waters and soils, which presents negative implications for exposed plants, animals, microbes, and possibly humans. The issue is that we lack a global view of what happens when these medicinal products are discharged into our environment.



A significant portion of medicinal products are disposed of by flushing them down sinks and toilets which is then transferred to a waste water treatment plant where the water can be cleaned and released back into streams and rivers. The issue with this method of disposal is that some medicinal chemicals can survive even after wastewater treatment, thus sending contaminated water to our rivers, streams and oceans. Once in the environment, medicinal products are transformed and transferred between the different compartments of the environment—surface water, ground water, soil and air, through chemical processes. Medicinal products also have the ability to accumulate in the fat tissues of animals and can be thus introduced into the food chain and consumed by humans.



Thanks for protecting the environment by properly disposing of your un-needed and expired medicine.

You are *Creating a Clean Water Future* for generations to come...

Visit www.CleanWaterFuture.com to find out how you can get involved with the *Clean Water Future* campaign and to access information, links to resources and downloadable tools to get started making a difference today.

Created by:

City of Daphne Environmental Programs

1705 Main Street, Daphne, AL 36526

www.DaphneAl.com

251-620-1500

Proper Disposal
of Expired or
Unneeded
Prescription Drugs



In efforts to protect our
environment and our
community.

Benefits of Recycling Unused and Expired Medications

- Prevent contamination of streams, rivers, oceans, groundwater and soils.
- Protects our fish, wildlife and plant species.
- Prevents the illegal sale of pharmaceuticals and lowers risk of illegal use.
- Protect children and pets from harm caused by accidental ingestion.



How can you help?

Go through your medicine cabinet and take out any medications, prescriptions or pet medications that are expired or no longer needed.

Pour all pills and capsules into a sandwich bag and zip it closed.

Keep all syrups, creams, inhalants, and powders in their original bottles.

Scratch off or mark through all of your personal information in the prescription labels.

Place all empty pill bottles in your plastic recycling.

Drop off your plastic bag of pills, creams, syrups, powders, and inhalants to the proper drop off locations. Here are some drop off locations in your area where you can easily drop them in a drop box.

Expired Prescription Drop Off Locations in Your Area

Daphne Police Station

1502 US Hwy 98, Daphne, AL 36526
251-621-9100

Walgreens

3025 US Hwy 98, Daphne, AL 36526
(251) 621-7266



Look for pharmaceutical drop off boxes like this one in your community!

What is...

Create a Clean Water Future?

Create a Clean Water Future is a public service campaign to help residents of Alabama learn more about stormwater runoff and its impacts; increase demand for stormwater management programs; and provide tools that empower Alabama residents to reduce polluted runoff in our waterways.

The **Create a Clean Water Future** campaign focuses on the serious issue of polluted stormwater runoff in Alabama's creeks, streams, rivers and bays and the simple steps citizens can take to help solve the problem.

The public awareness and action campaign includes public service announcements, user-friendly online resources, information, and take-action tools.

Thanks for protecting the environment. By "Properly Operating Your Off Road Vehicle", you are helping **Create a Clean Water Future** for generations to come....visit our website at www.cleanwaterfuture.com.

Daphne is working to
**Create a Clean Water
Future** for generations
to come.....



Daphne

ALABAMA

The Jubilee City



**Off-Road Vehicle
Owners**

**Easy steps to help
"YOU"**

**Create a Clean Water
Future
By**

**Properly Handling
Off-Road Vehicle!**



Restored Wetland Area

**City of Daphne
Environmental Programs
1705 Main Street
PO Box 400
Phone: 251-620-1500
Web: daphneal.com**

Off-Road Issues!

Off-Roading shall be defined as the activity of driving a motorized vehicle, truck, four wheeler, motor bike, other all terrain vehicle on any unpaved or unsurfaced road, track, land, or terrain made of materials including, but not limited to sand, gravel, mud, rocks, wetlands, riverbeds, beaches, and other natural terrain.

Problems Created by Off-Roading

Soil Erosion, soil compaction, litter, trash, vegetation damage, destruction of critical wildlife habitat & dust problems.

These problems can result in serious health and water quality problems. In addition, wildlife habitat and the appearance of City's streams can be adversely affected by the off-road activities.

In an effort to protect the environment the City has implemented an ordinance to address Off-Road trespass.

New Laws Regulating Off-Roading in Daphne, Ordinance 2017-05 : It shall

be unlawful for any person to ride or operate in any manner, any vehicle, car, truck, motor driven cycle, all-terrain vehicle (ATV), off-road vehicle, recreational vehicle, or go-cart, on any private property without permission, utility easement, off-road on any public property and/or off-road on public right-of-way in the city limits or police jurisdiction of the City of Daphne.

How can You get involved?

Learn about watersheds and your local watershed by visiting the following EPA websites:

<https://www.epa.gov/hwp/background-information-watersheds>

<https://watersgeo.epa.gov/mywaterway/>

Understand the environmental impacts from improperly Off-Roaded.



By getting involved you can preserve our streams and protect the health of your family and community.....There are three easy steps to you becoming part of the solution:

Step up –

Help keep protect **our** waterways. Some easy steps to prevent environmental impacts;

- 1) Don't trespass; make sure you have written permission with you while riding
- 2) Avoid environmentally sensitive areas such as wetlands, stream and steep slopes
- 3) Be safe, wear proper safety equipment into a storm drainage system.

Speak up – Report any illegal trespass or environmental damage.

Local-City of Daphne
Environmental Programs
(251) 234-7122 (Phone or text)
Police Department
(251) 621-9100

Follow up – Make sure that the trespass or environmental problem has been resolved by following up with the proper agency.

Off-road in approved facilities.
Search the Web for environmentally sensitive approved trails in Alabama.

What is...*Create a Clean Water Future*?

Create a Clean Water Future is a public service campaign to help residents of Alabama learn more about stormwater runoff and its impacts; increase demand for stormwater management programs; and provide tools that empower Alabama residents to reduce polluted runoff in our waterways.

The *Create a Clean Water Future* campaign has three easy ways **you** can become part of the solution:

Step up – Install rain barrels at **your** home or office.

Speak up – Let **your** voice be heard with local officials, policymakers, and the media to make sure stormwater runoff is on the agenda. Tell your friends about the problem and how you are helping address it by installing your rain barrel.

Follow up – Make sure **your** local government is offering stormwater education outreach opportunities such as rain barrel workshops.

Join the campaign visit

www.CleanWaterFuture.com

This project is made possible by:



Daphne

ALABAMA

The Jubilee City



Rain Barrels



If you or someone you know is interested in owning a rain barrel please contact

Daphne Environmental Programs

251-620-1561

acampbell@daphneal.com

Coastal Alabama receives five and a half feet of rain per year, which falls and runs across roofs, lawns, and driveways, picking up litter, fertilizer, pet waste, and chemicals along the way. Stormwater is not treated, and these contaminants are transported directly to local waterways. Installing a rain barrel is a practical way to reduce stormwater impacts. A one-inch rainfall over a 1,000 ft² roof yields 620 gallons of water; installing a rain barrel allows storage for future use and protects our natural resources.



Benefits of Rain Barrels

- Rain barrels provide a free water source that can be used for watering gardens, washing cars, or bathing pets.
- Using water caught in a rain barrel to water flowerbeds and gardens can reduce the cost of monthly water bills.
- Rain water is better for plants and soil than tap water. Rainwater is free of salt, inorganic ions, and fluoride that accumulate in soil over time and harm plant roots. Using rainwater makes plants healthier and stronger.
- Reduce runoff pollution. When it rains, runoff picks up fertilizers, oil, pesticides and other contaminants and carries them into storm drains and streams. These pollutants can increase algae growth, alter the habitat for fish, and even make oceans dangerous for recreational activities. Collecting rain water helps prevent this damaging flow.

What is a Rain Barrel?

A rain barrel is a system that collects and stores rainwater from your roof that would otherwise runoff into storm drains and streams. A rain barrel is typically made from a 55 gallon drum, a gutter down-spout, vinyl hose, PVC couplings, and a spigot. Rain barrels are simple, inexpensive and can sit under any gutter down spout.



How to Maintain Your Rain Barrels

Tips to keep your rain barrels clean and functioning:

- Start at the gutter that feeds your rain barrel—clean the gutter of leaves and debris. Rinse this gutter with a hose to be sure it is draining properly.
- Inspect the overall condition—look for cracks in the barrel, clogged spigots, or debris on the bottom.
- Cleaning: empty all water, use a mixture of vinegar and water to scrub the inside and bottom of the barrel with a long handled brush. Rinse out and let dry.

Not for Consumption

Rain barrel water is not for human or pet consumption. As rain water flows over a roof, it picks up pollutants such as bacteria from animals and chemicals from roof materials.



Thank you for helping Create a Clean Water Future for generations to come! For more information visit www.cleanwaterfuture.com

Rain Garden Design for Home Owners

A guide compiled for
Alabama
Master Gardens



What is a rain garden and why should I plant one?

Rain gardens are just that, gardens. However, they are also beautifully landscaped miniature bio-retention basins that catch rain water that runs off nearby roofs, driveways, and other impervious surfaces. Rain gardens delay and filter surface runoff and increase the amount of water that infiltrates into the ground. This reduces pollutant transport caused by immediate runoff into nearby streams and lakes. By collecting the runoff from impervious surfaces and increasing infiltration, rain gardens can play a valuable role in urban storm water management. The plants, mulch and soil in rain gardens help to trap, utilize or degrade pollutants, such as oil from driveways and parking lots, nutrients from lawns and vegetable gardens, and bacteria from pet wastes. Rain gardens also trap sediment and temporarily hold water that would otherwise end up immediately in storm drains. Essentially, rain gardens are beautiful, miniature water treatment plants.



By increasing infiltration, rain gardens not only improve the quality of storm water, they reduce the potential for local flooding of streets, sidewalks and yards. By detaining storm water and increasing the time it takes for this water to concentrate in streams, rain gardens have the potential to significantly reduce property damage from flooding in high rainfall areas. In the long run, rain gardens will not only help prevent landscape and stream bank erosion, they will help maintain base flow in streams during dry cycles and aid in recharge of aquifers.

Rain gardens work by using a series of filtration mechanisms. Physically the plants and soils within the gardens act to trap potential pollutants. In slow-moving water, pollutants have time to physically stick to roots and soil particles.



Chemically, some of the pollutants and water are absorbed by the plants and used in energy cycles. Beneficial bacteria and other microorganisms in the plant rooting zone can break down many of the pollutants and make them harmless. Harmful bacteria from pet waste are digested by soil organisms or killed when the rain garden rooting zone goes into a

rapid drying cycle (usually within 48 hours). Lastly, the porous nature of the soil in a rain garden will allow most of the water from the first inch of rainfall to soak deeper into the ground. The biologically active zone of soil below the rain garden will provide further water treatment as the percolating water moves on to meet water needs of surrounding vegetation, riparian buffer plants, or as it goes to provide stream base flow or help recharge ground water.

Where should a rain garden be located?

Generally speaking, rain gardens can be located just about anywhere on a landscape. There are guidelines to choosing preferred locations that will make rain gardens more effective, easier to build and safer for small children and pets.

- ❖ Rain gardens should be placed where they catch the desired runoff and maximize infiltration. This will usually be some low-lying area on the landscape, but one that has good, internal soil drainage.
- ❖ Gardens need to be placed at least 10 feet from any building foundation to prevent potential structural damage due to wetness or flooding.
- ❖ Rain gardens should NOT be placed over septic systems. This can overwhelm the system and cause an unsightly and smelly mess.
- ❖ Those areas where water puddles long enough to form small ponds are not ideal for rain gardens. Infiltration and soil permeability are already low in such areas and rain gardens will only make the problem worse.
- ❖ Rain gardens should be placed in full or intermediate sunlight. Exposure to some direct sunlight will speed up the drying cycle, assist in killing pathogens, and promote better plant growth.
- ❖ Choosing a relatively flat section of your yard that has well-drained soil will make digging and building your garden easier.



How do you determine shape and

size of a rain garden?

Rain gardens can be just about any shape or size. However, to be most effective a rain garden should be tailored to catch the desired amount of runoff. Most rain gardens are designed to catch the first inch of rainfall producing runoff. This initial runoff usually contains the most pollutants.

Many rain gardens are kidney bean shaped with the largest side facing the source of runoff. The shape of a rain garden however, is not a critical factor. In fact, rain gardens are often confined by roadways, sidewalks, parking lots or medians. So, use your imagination and site conditions to design your garden.



Once you have picked a site for your rain garden, the most important things in planning and sizing your garden are:

- Size of drainage area (roof, lawn, driveways, etc.),
- Soil characteristics, and
- Garden depth.

1. The first step in determining the size your rain garden should be is to survey and calculate drainage area size. Drainage area size can be used to estimate runoff volume, and thus, how much water your rain garden will need to catch. If you are building a rain garden in your lawn to collect water from a drain spout, you will need to determine the water volume discharged from that spout.

For example, assume you wish to build a rain garden that catches water from a building drain spout on your property. Your roof is 60 ft by 40 ft, or 2400 sq ft. The drain spout drains about $\frac{1}{4}$ of the roof. So, the drainage area for your rain garden is $2400 \times \frac{1}{4}$, or about 600 sq ft. The roof will produce nearly 100 percent runoff and a one-inch rain would discharge around 50 cubic feet (approximately 375 gallons) of water to your garden.



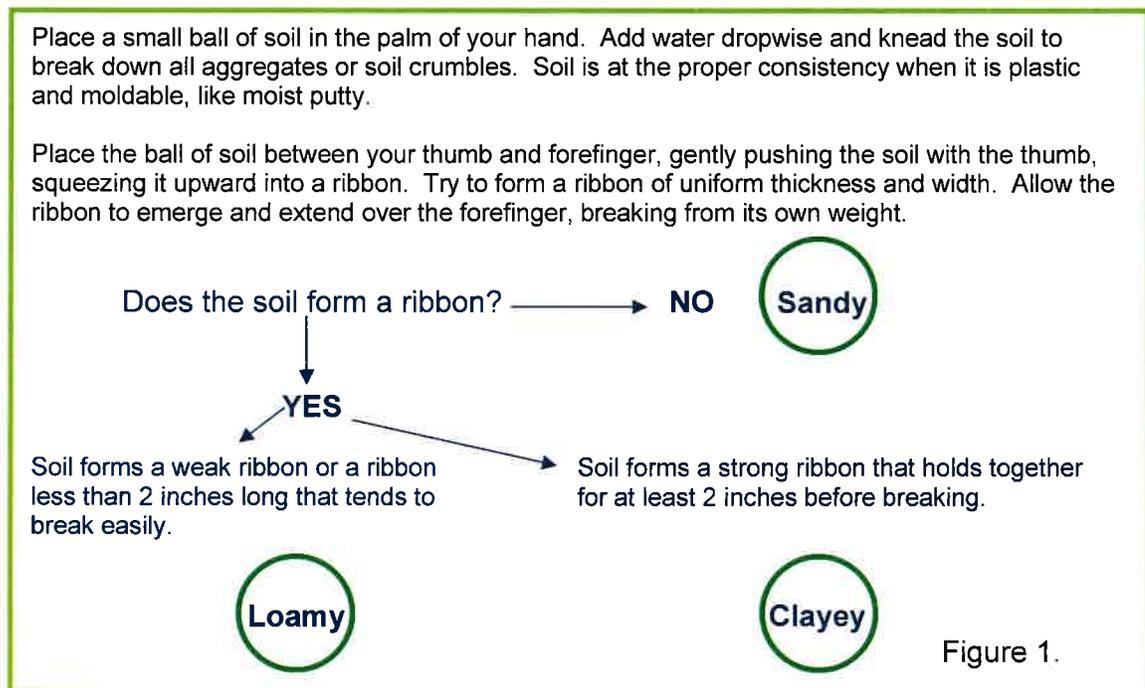
www.artandlindaswildflowers.com

You can use this calculation to build a rain garden that is 10 to 30 feet from the building and water source, or you can use a pipe to direct runoff directly to your rain garden. If your rain garden is more than 30 feet from the building and drain spout you should consider the lawn area between the building and garden as part of the drainage area that will also discharge water to your rain garden.

2. The next step should be to determine if the soil on

your site is suitable for a rain garden. The soil should allow water to infiltrate the soil and slowly drain through the soil. All soils are a mixture of sand (large particles), silt (intermediate size particles), and clay (very tiny particles). Decomposing soil organic matter allows these particles to form stable aggregates that can enhance water movement through the soil (percolation) regardless of the amount of sand, silt and clay present.

Generally, a soil high in clay will tend to impede water movement. A soil high in sand will tend to drain very rapidly. To estimate the amount of sand, silt and clay in the soil perform the test in Figure 1. This will place soil into one of three broad categories: 1) sandy which is dominated by sand, 2) loamy which means that it contains a lot of silt, 3) clayey which is dominated by clay.



Regardless of the amount of sand, silt, and clay in your soil, you can do a simple percolation test to determine how quickly water moves through your soil. Dig a hole about 12 inches deep and about 6 inches in diameter. A post-hole digger is good for this. Fill the hole with water three times and allow it to thoroughly saturate the surrounding soil. Fill the hole with water a fourth time and observe how long it takes the water to soak out of the hole. If the soil is already saturated from rain, you may not have to fill it three times.

Rapid percolation: Water drains out of the hole within an hour; soil may not hold water long enough for establishment of vegetation. Organic matter amendments needed.

Moderate percolation: Water drains out of the hole within 8 hours; ideal for effective rain garden establishment.

Slow percolation: Water does not completely drain within 24 hours; site may be too wet, clayey or low for effective rain garden. Additional digging and soil amendments necessary

3. Determine the depth of your garden. Remember the goal is to have a garden that is level, even on a sloping landscape, and most gardens are between 4 and 8 inches deep. In most cases it is not advisable to build a garden that is more than 8 inches deep because it may hold water for too long, be a tripping hazard or look like a hole in the ground.



The determining factor in how deep your rain garden should be is the slope of your lawn. If your lawn is perfectly flat your rain garden should be 3-4 inches deep. Unfortunately most lawns are not flat, so your rain garden may need to be a little deeper.

To determine the slope of your lawn:

- ❖ Pound two stakes into the ground about 15 feet apart.
- ❖ Tie a string to the bottom of the uphill stake and then tie the string to the downhill stake. Make sure your stakes are perpendicular to the ground.
- ❖ Level the string with the use of a carpenter's level.
- ❖ Measure the distance between the two stakes in inches.
- ❖ Then measure the height of the string above the ground on the downhill stake in inches.
- ❖ Divide the height by the distance between the stakes and multiply by 100 to find the slope.
- ❖ Remember if you have a slope greater than 12% you should choose another location.

Example: Distance between stakes is 15 feet or 180 inches and the height of the string above the ground on the down hill stake is 10 inches:

$$\frac{10}{180} \times 100 \% = 5.5\% \text{ slope}$$

Once you have calculated the slope, select a depth from the following table.

Table 1. Lawns slopes and suggested depths.

Slope	Depth of rain garden
< 4%	3-5 in
5-7%	6-7 in
8-12%	8 in
> 12%	unacceptable

4. Now that you know the size of your drainage area, soil type and depth of your garden, you can use the following tables to determine what the **size factor** for your rain garden should be by looking at your soil type and depth of the garden.

Table 2. Size factors for rain gardens.

Soil	less than 30 ft from down spout			more than 30 ft from down spout
	3-5 in. deep	6-7 in. deep	8 in. deep	All Depths
Sand	0.19	0.15	0.08	0.03
Loamy	0.34	0.25	0.16	0.06
Clayey	0.43	0.32	0.2	0.1

Multiply the **size factor** by the drainage area to determine the recommended rain garden size in square feet.

For example, your rain garden is less than 30 feet from the down spout, the calculated depth is 6 in, and you have clayey soil. Your size factor is 0.32. The drainage area is 600 sq ft. So multiply 600 by 0.32, the suggested rain garden size is about 190 sq ft.

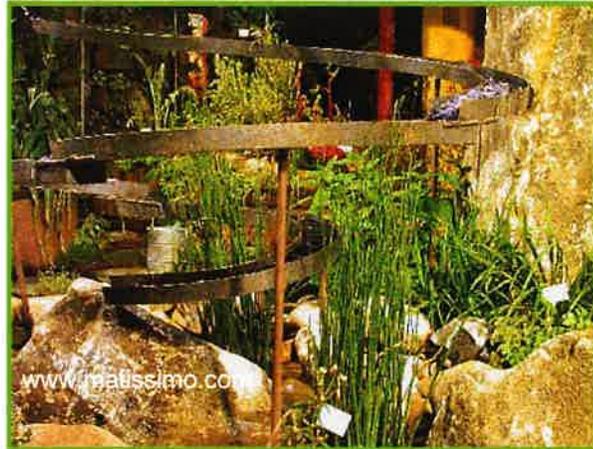
If you determine the rain garden area is more than 300 sq ft, you may want to consider consulting a professional or you could break up your garden into two smaller gardens.



5. Use your imagination. You can make your rain garden a unique part of your yard, by using your runoff as a water feature, making it an unusual shape. Here are some examples of unusual rain garden ideas.



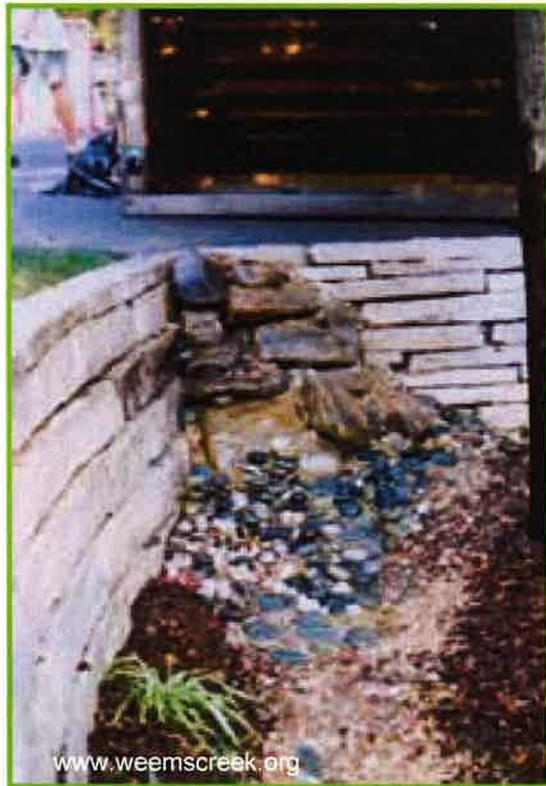
A rain garden built around an unusual gazebo



Neat water features, a fountain and a waterfall



Stones and paths



How do you construct a rain garden?

To be safe, before you begin digging call your local utilities to make sure your garden will not interfere with electric, gas, phone, or water lines.

It is time to start construction! The first step is to prepare your site. If you decide to build your garden in a lawn, kill the existing grass before you begin. The best way to kill the grass is to place black plastic over the area where the rain garden will be. The grass will die from lack of sunlight. If you know in advance that you will be planting a garden, you can cover the area with newspaper and then put grass clippings or hay over the area in the fall. By spring you will have a great mulched area ready for a garden.

Before you begin to dig, lay out the outline of your garden using stakes and string. Once you have the outline, begin digging the garden to the desired depth. If your lawn is flat, the depth will be same for the entire garden. Save the soil removed from the garden. If your garden is on a slope, you will need to dig the uphill side deeper than the downhill side. You can use the soil from the uphill side to raise the edge of the downhill side so that the garden is level and of equal depth. This soil may also be used to build the berm described below.

If you have very slow percolation and/or clayey soil, you will need to augment the soil material below the garden to improve drainage. To do this, dig the original hole for your garden an **additional** 1.5-2 ft deep. Then add amendments to make the soil more porous and more nutritious for plants. An ideal rain garden mix will consist of 50-60% sand, 20-30% topsoil, and 20-30% compost. Ideally, the clay content should be less than 10%.



For most situations a mix of 30% sand, 30% compost or fine pine bark, and 30% existing soil material will provide good plant growth and adequate drainage.

In clayey subsoil, it is ideal to line the bottom of your 1.5-2 ft deep hole with 3-6 inches of gravel, to aid subsurface infiltration. Once you

Tools you may need

- * tape measure
- * shovels
- * rakes
- * trowels
- * carpenter's level
- * wooden stakes
- * string
- * 2x4 boards (optional)
- * small backhoe or friends

have added gravel, fill in the hole with the amended soil material until you have the desired depth.

For all rain gardens it is important to build a berm, or small earthen dam, on the down hill side of the rain garden to keep water in the garden. Use the original soil material dug from the hole to build this berm. Pile the soil material in a crest below the garden and pack it using a shovel and your feet, so it will not be washed away by runoff. Stabilize your berm with either sod or ground cover to prevent raindrop erosion.



With the aid of a few friends you can have your rain garden dug in a day!

Planting and Caring for Your Garden

Now it is time to use your imagination and plant your garden. The general rule of thumb is that any plant can go in a rain garden as long as it is appropriate for the conditions in the garden.

Here are some guidelines to consider when planting your garden.

1. Consider all physical site restrictions and limitations. Choose plants that are appropriate for the sunlight exposure and soil conditions of your garden. Also choose plants that can tolerate standing water for up to 48 hours and plants that can tolerate some periods of drought.

2. Choose plants that are aesthetically pleasing to you. You may want to choose a theme. Many people choose plants that attract hummingbirds or butterflies. It is always desirable to use native plants, because they are more disease resistant and tolerant to local conditions.



3. Do your homework and use Internet resources. Many websites have planting tips and provide lists of available plants that are suitable for various soil and microclimate conditions of rain gardens. One example site is The Rain Gardens Organization (www.raingardens.org).

Native plant lists and sources are available at:
www.aces.edu/waterquality/mg.htm

Unique rain garden ideas for your home are available at:
www.bbg.org/gar2/topics/design/2004sp_raingardens1.html and
<http://www.icdc.com/~larsende/gard.htm>.

4. After planting your rain garden it is a good idea to mulch the entire garden with hardwood shavings. The mulch aids in the cleansing properties of the garden, and hardwood mulch does not float away.

5. Remember that your rain garden is a garden. It will take time for the plants to become established and the rain garden will need to be watered periodically and weeded. You may also need to re-mulch every couple of years.



Once your garden is in place
sit back and enjoy it!



Compiled from University of Wisconsin, Cooperative Extension Publications, developed by Roger Bannerman, Wisconsin Department of Natural Resources and Ellen Considine, U.S. Geological Survey. Adapted by Chelsea Ward, Jim Hairston, Charles Mitchell and Eve Brantley, Auburn University, Alabama Cooperative Extension System.

Why Recycle?

Conserve resources

When we recycle, used materials are converted into new products; this reduces the need to consume natural resources. If used materials are not recycled, new products are made by extracting fresh, raw material from the Earth, through mining and forestry. Recycling **helps conserve important raw materials and protects natural habitats for the future.**

Save energy

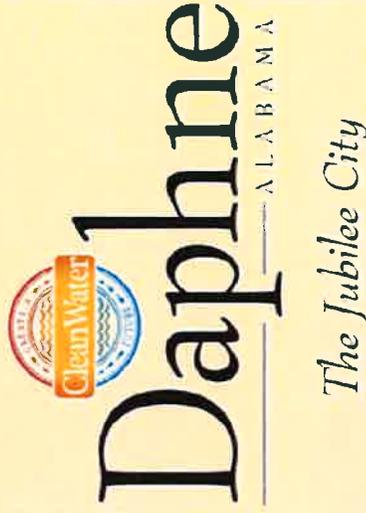
Using recycled materials in the manufacturing process **uses considerably less energy than that required for producing new products from raw materials**, even when comparing all associated costs such as transport. In addition, there is extra energy saved because when using recycled materials there is no need to extract, refine, transport and process raw materials.

Help protect our environment

Recycling reduces the need for extracting, refining and processing raw materials all of which create substantial air and water pollution. As recycling saves energy it also **reduces greenhouse gas emissions**, which helps to tackle climate change. The UK is estimated to save more than 18 million tons of CO2 a year through recycling – that's the equivalent to taking 5 million cars off the road.

Reduce landfill

Recycled materials are reprocessed into new products, which **reduces the amount of trash sent to landfills**. Landfills also produce a significant amount of methane gas, a dangerous greenhouse gas. Reducing landfill material can also reduce the amount of methane gas that is emitted into our environment.



Thanks for recycling in Daphne. You are **Creating a Clean Water Future** for Generations to Come.

Visit www.CleanWaterFuture.com to find out how you can get involved with the **Clean Water Future** campaign and to access information, links to resources and downloadable tools to get started making a difference today.

Created by:

City of Daphne Environmental Programs
1705 Main Street, Daphne, AL 36526
www.DaphneAl.com
251-620-1500

Recycling in
Daphne:
What & Where



A guide to reducing your
footprint.

Publication Date 3-31-20

Did you know?

Recycle Daphne is a program dedicated to the recycling efforts within the City of Daphne. Did you know that over **3,200 tons of materials** were recycled or composted through Recycle Daphne's efforts in 2019? By keeping these materials out of a landfill, we decreased carbon dioxide and methane emissions and saved enough energy to power 7,000 Daphne homes for 36 days!

Recycle Carts

Recycle Daphne offers once per week curbside recycling service to every home inside the city limits. **Recycling bins and carts are free to residents**, and must be placed curbside by 7am on scheduled pick-up day. All loose materials must be placed inside the cart, be rinsed of food particles and large items must be broken down. **NO needles, diapers, soiled or hazardous materials!** *(Due to recent recycle transfer station fire, recycle is temporarily being hauled to the Baldwin County Solid Waste Facility)*

Contact Daphne Public Works to find out how to get your free recycling cart (251-620-2100).

If you have specific questions about your curbside service, please contact the Solid Waste Coordinator.



Recycling drop off

Daphne Public Works-26435 Public Works Road (Drop-off location open 8am Monday through 2pm Friday) *(Due to recent recycle transfer station fire, the Drop-off location is temporarily closed).*

Baldwin County Solid Waste Recycle Locations Visit <http://baldwincountyval.gov/departments/solid-waste/recycling/recycle-locations> or call **251-972-6878**

Special Recycle & Proper Disposal Events

Keep Daphne Beautiful Day (Spring of each year-Call Daphne's Solid Waste Coordinator for specific date 251-620-2100). Free drop off for tires, expired medications, books, magazines and shredding of personal documents. Thrift store donations are also accepted.

Baldwin County Solid Waste Hazardous Waste Amnesty (free) Day-Contact Baldwin County Solid Waste (251-972-6878) for annual date.



Daphne Residential

Recycle & Proper Disposal

Used Oil, transmission fluid & batteries-local auto parts retailers
Alkaline Batteries-Home Depot & Lowes take 1.5 & 9 volt batteries
Recyclable Batteries-Local retailers such as Home Depot, Lowes & Target
Fluorescence & CFL Bulbs-Contact Baldwin County Solid Waste (251-972-6878).
Grease and Cooking Oil Recycle Locations-
Daphne Recycle Drop-off, Riviera Utilities Main office, & Daphne Utilities Main office; for other locations contact Daphne Utilities-251-626-2628
Ink & Toner Cartridges -Local retailers such as Staples, Office Depot, & Target
Medicine-Police Station Center-1502 US Hwy 98- drop box
Needles-Contact Baldwin County Solid Waste (251-972-6878).
Paint (residential)-Baldwin County Magnolia Landfill, subject to fees
Pesticides (residential)---Baldwin County Magnolia Landfill, subject to fees
Plastic Bags-Local retailers such as Target, Lowes, Publix, & Walmart.
Tires-Baldwin County Landfill, subject to fees



Medicine Drop Off
Daphne Police Station

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The **Create a Clean Water Future** campaign focuses on the serious issue of polluted stormwater runoff in Alabama's creeks, streams, rivers and bays and the simple steps citizens can take to help solve the problem.

The public awareness and action campaign includes public service announcements, user-friendly online resources, information, and take-action tools.

Thanks for protecting the environment. By protecting & maintaining our stormwater drains, you are **Creating a Clean Water Future** for generations to come.....visit our website at www.cleanwaterfuture.com.

Daphne is working to
Create a Clean Water Future for generations to come.....



The Jubilee City



Erosion From Stormwater Overtopping the Clogged Drain



Storm Drain Protection

Easy steps to help **YOU**

Create a Clean Water Future
By

Protecting our Storm Drains!



Clogged Street Drain

City of Daphne Environmental

Programs

1705 Main Street

PO Box 400

Phone: 251-621-3080

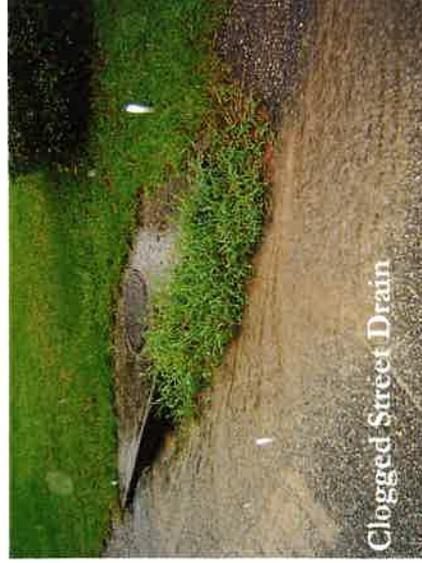
Web: daphneal.com

What does a storm water drain do ?

A stormwater drain collects and conveys stormwater into the storm drainage system from impervious surfaces such as streets, parking lots, sidewalks, and roofs which eventually flow into the nearest creek or bay. This stormwater is not treated before it discharges. So, it is very important that we take great care in what goes into our drains and prevent them from becoming clogged by natural and man made debris.

Clogged stormwater drains can cause:

- * Private property and street flooding
- * Unsafe road conditions
- * Erosion from stormwater pipe



failures

How can You get involved?

Identify and report City's drainage system maintenance issues to help prevent flooding and preserve our streams..... There are several easy steps to **you** becoming part of the solution:

Step up –

- * *Bag yard debris; never blow or rake leaves or other debris into a stormwater drain.*
- * *If you see a clogged drain, clean it out and bag the debris.*
- * *When putting out your trash, keep all bag debris away from stormwater drains. They could wash into the drain and cause flooding.*
- * *Never pour anything into our storm drains they flow into a stream or bay; let's keep pollutants and toxins out of **our** waterways.*

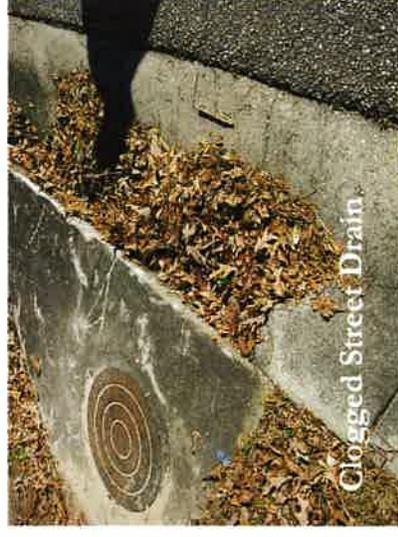
Speak up – Report any stormwater drain maintenance concerns to your local government or to the appropriate agency.

Local-City of Daphne
Public Works
(251) 620-2101

Environmental Programs
(251) 234-7122 (Phone or text)

Follow up – Make sure that the issue has been resolved by following up with the proper agency.

Common Types of Stormwater Drains (Inlets)



Importance of Storm Water Basins

Urbanized areas produce large storm water runoff volumes due to large amounts of impervious surfaces. Storm water runoff can pick up pollutants such as sediment, nutrients, pesticides, and other waste becoming a significant source of water pollution. A detention basin is designed to reduce the impacts of urbanization on local streams and rivers by collecting and slowly releasing storm water, thereby improving storm water quality as well as reducing peak flows.

Properly maintained detention basins can provide effective pollutant removal and necessary storage volumes during larger storm events. Improperly maintained detention basins can result in increased pollutants discharged downstream, risk of localized flooding, instability of downstream channels, and aesthetic and nuisance problems. It also is often very expensive to repair failed detention basins.



Storm water pollution impacts our streams & so much more.

Join Daphne in
Creating a Clean Water Future.

To discover how you can help, visit
www.CleanWaterFuture.com

STORM WATER POND MAINTENANCE

**A homeowners guide to
proper storm water
maintenance.**



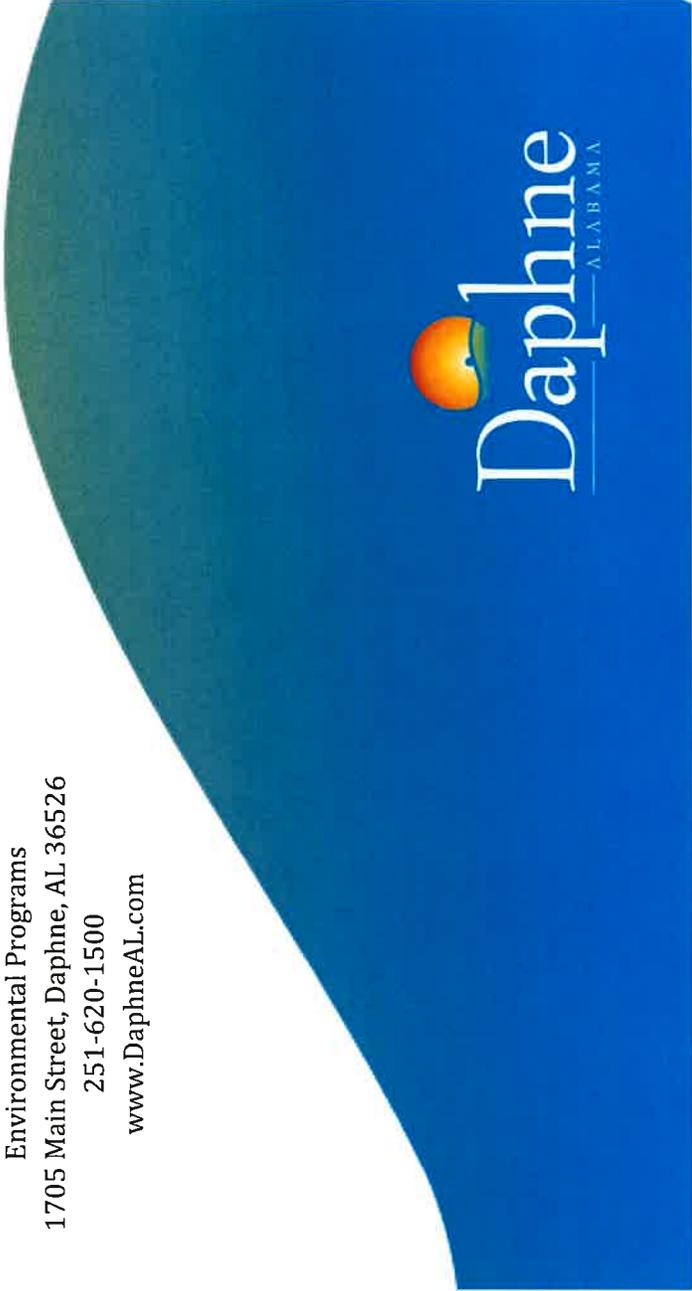
City of Daphne

Environmental Programs

1705 Main Street, Daphne, AL 36526

251-620-1500

www.DaphneAL.com



Daphne
ALABAMA

Detention Basins

A Detention Basin is a dry pond that is a permanent storm water management facility for the temporary storage of runoff and is designed to hold water for a short period of time (two to six days). They are composed of inlets bringing water into the basin/pond



and outlets releasing water into nearby streams or drainage ways.

Step Up

Conduct periodic scheduled inspections of your basin and inspections after major rain events. Inspect basin, inlets, and outlets for:

- Structural integrity – ensure basins are not damaged or crumbling
- Erosion - check around pipes for erosion or missing rip rap
- Obstructions – check pipes for flow obstructions from debris, trash, or sediment.

Speak Up

Address issues identified during inspections by communicating with your neighborhood Property Owners Association (POA) or Home Owners Association (HOA).

Basin

Maintenance

Regular Basin Maintenance should include:

- Check for litter & debris near inlets in the basin & at outfalls
- Remove all litter & debris and properly dispose
- Inspect entire basin for bare soils & eroded areas
- Stabilize bare areas with seed & mulch
- Remove sediment that has accumulated to more than 6 – 12”.

Vegetation

Management

Vegetation Management steps in & around basins should include:

- Mow regularly (grass height should be about 4 – 6” tall) to eliminate need for brush removal
- Limit use of fertilizers & pesticides in & around basins
- Remove noxious weeds & saplings
- Remove vegetation around inlet/outlet structures to allow drainage
- Remove trees & saplings that reduce the capacity for water storage
- Inspect vegetative growth in the spring & fall. (Cattails should be cut & removed in late fall to minimize clogging from dead vegetation.)

Follow Up

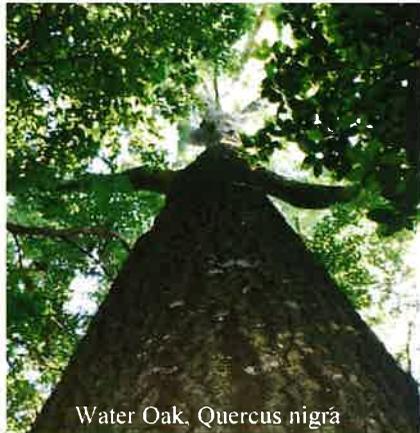
Conduct inspections at a minimum annually and notify your POA or HOA if any issues arise.



Retention Basins

A Retention Basin is a wet pond that is designed as a storm water facility to provide permanent storage of runoff, which is then only released through percolation, evaporation, and emergency overflow. They allow pollutants to settle before discharging into another water body.





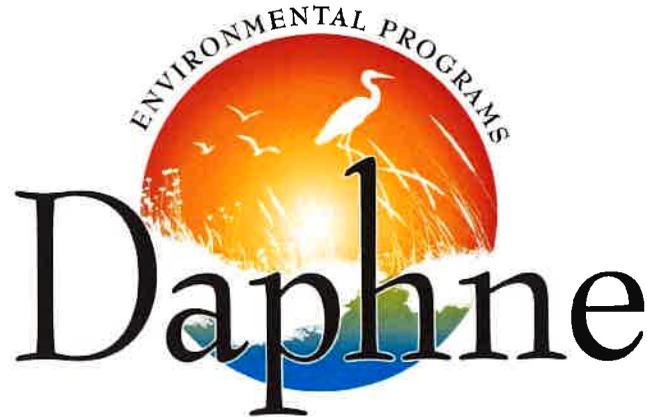
Water Oak, *Quercus nigra*

Native plant sales are good places to purchase native trees. Prices are reasonable and experts are on-hand to answer questions. Weeks Bay Reserve and Wolf Bay Watershed Watch conduct native plant sales in the spring and fall of each year.

Special Thanks to Our Sponsors!
We are proud to work towards creating a clean water future for all (www.cleanwaterfuture.com).



The Jubilee City



Benefits of Planting Native Trees in Your Yard!

Environmental Programs
251-620-1500

If you are a business or homeowner interested in landscaping in an ecological, cost effective, and aesthetically pleasing manner, it is time to think about incorporating native plants into your outdoor design. Native plants are those flowers, grasses, shrubs, and trees indigenous to a geographical region of North America prior to European settlement. Coastal Alabama has 80 or more native tree species, and many of these can be outstanding additions to South Alabama landscapes.

Benefits of Native Trees

Once Established Native Trees:

- *require less intensive care and maintenance than many exotic species*
- *help reduce air pollution*
- *provide food and shelter for wildlife*
- *promote biodiversity and stewardship of our natural heritage*
- *save money by lowering energy costs*
- *will not escape, to compete with native species in natural areas*
- *are beautiful, and they look natural around our homes*

Ten Great Native Trees for South Alabama Landscapes

American Beech, *Fagus grandifolia*

Landscape value: large deciduous canopy tree

Average Height: 50' - 70'

Average Crown: 40' - 60'

Growth: slow to moderate

Site Requirements: full sun to light shade; moist to well drained soils

Flower/Fruit: nuts foraged by wildlife



Atlantic White Cedar, *Chamaecyparis thyoides*

Landscape value: large, upright evergreen tree

Average Height: 40' - 50'

Average Crown: 10' - 15'

Growth: fast juvenile, slows later

Site Requirements: full sun to part shade; wet to well drained soils

Flower/Fruit: n/a



Bald Cypress, *Taxodium distichum*

Landscape value: large deciduous tree, tolerant of very wet sites

Average Height: 70' - 90'

Average Crown: 20' - 30'

Growth: medium

Site Requirements: full sun to part shade; average to wet soils

Flower/Fruit: n/a



Live Oak, *Quercus virginiana*

Landscape value: large evergreen, wind resistant tree

Average Height: 40' - 80'

Average Crown: 60' - 120'

Growth: medium

Site Requirements: full sun to part shade; moist to dry soils

Flower/Fruit: acorns foraged by wildlife



Southern Magnolia, *Magnolia grandiflora*

Landscape value: large evergreen, wind resistant tree

Average Height: 60' - 80'

Average Crown: 40' - 60'

Growth: slow to medium

Light Requirement: full sun to part shade; moist to dry soils

Flower/Fruit: showy flowers



Sweetbay Magnolia, *Magnolia virginiana*

Landscape value: medium evergreen tree

Average Height: 50' - 60'

Average Crown: 20' - 40'

Growth: medium

Site Requirements: full sun to part shade; wet to well drained soils

Flower/Fruit: mid-spring flowers; fruits foraged by birds



Black Gum, *Nyssa sylvatica*

Landscape value: large deciduous canopy tree, spectacular fall foliage

Average Height: 60' - 80'

Average Crown: 30' - 40'

Growth: slow to medium

Site Requirements: full sun to shade; average to wet soils

Flower/Fruit: fruit, some value to wildlife



Red Maple, *Acer rubrum*

Landscape value: fast growing medium deciduous tree

Average Height: 40' - 60'

Average Crown: 20' - 30'

Growth: medium to fast

Site Requirements: sun to part shade; moist to well drained soils

Flower/Fruit: early spring flowers are beautiful dark red



Sparkleberry, *Vaccinium arboreum*

Landscape value: small semi-evergreen tree with reddish bark, interesting form;

Average Height: 15' - 20'

Average Crown: 15' - 20'

Growth: slow

Site Requirements: full sun to light shade; moist to well drained soils

Flower/Fruit: berries foraged by wild life



Two-Winged Silverbell, *Halesia diptera*

Landscape value: small deciduous tree, good replacement for dogwood

Average Height: 20' - 30'

Average Crown: 20' - 30'

Growth: slow to medium

Site Requirements: full sun to shade; moist to well drained soils

Flower/Fruit: pretty snow-white bell shaped spring flowers



Native Plant Sales

Area plant sales are good places to purchase native shrubs. Prices are reasonable and experts are on-hand to answer questions. Weeks Bay Reserve and Wolf Bay Watershed Watch conduct native plant sales in the spring and fall of each year.



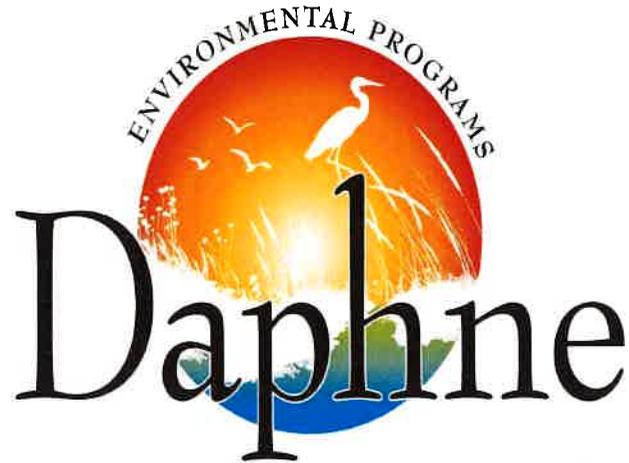
Special Thanks to Our Sponsors!
We are proud to work towards creating a clean water future for all (www.cleanwaterfuture.com).



The Jubilee City



Photos by: Gena Todia, Fred Nation



Benefits of Planting Native Shrubs in Your Yard!

Environmental Programs
251-620-1500

If you are a business or homeowner interested in landscaping in an ecological, cost effective, and aesthetically pleasing manner, it is time to think about incorporating native plants into your outdoor design. Native plants are flowers, grasses, shrubs, and trees indigenous to a geographical region of North America prior to European settlement. Coastal Alabama has hundreds of native shrub species, and many of these can be grown in cultivation as beautiful, low maintenance additions to South Alabama landscapes.

Benefits of Native Shrubs

Native Shrubs:

- Require less intensive care and maintenance than many exotic species.
- Help reduce air pollution.
- Provide food and shelter for wildlife.
- Promote biodiversity and stewardship of our natural heritage.
- Save money by lowering energy costs.
- Will not escape, to compete with native species in natural areas.
- Are beautiful, and they look natural around our homes.

Ten Great Native Shrubs for South Alabama Landscapes



Waxmyrtle; *Myrica (Morella) cerifera*

Landscape Value: Evergreen, very durable.
Size / Form: Large shrub, good informal hedge; dwarf forms available; takes heavy pruning.
Growth: Moderate / fast.
Site Requirements: Any site, wet or dry, sun-shade; salt tolerant.
Flower/Fruit: N/A for landscape value.



Florida Anise, *Illicium floridanum*

Landscape Value: Evergreen, year-round interest
Size / Form: Slow growing, upright habit.
Site Requirements: Shady, moist soils.
Flower/Fruit: Red Spring Flowers, persistent star-shaped fruits.



Oakleaf Hydrangea, *Hydrangea quercifolia*
Landscape Value: Large deciduous shrub, large cream-white flowers; year-round interest
Size/ Form: Large, broad.
Growth: Moderate
Site Requirements: Full sun to part shade; average soil, best with added lime.
Flower/Fruit: Colorful fall foliage.



Yaupon, *Ilex vomitoria*
Landscape Value: Evergreen, durable.
Size/ Form: Many sizes and forms
Growth: Moderate.
Site Requirements: Full sun to part shade; moist to dry soils.



Bluestem Palmetto, *Sabal minor*
Landscape Value: Evergreen, huge fan-shaped leaves.
Size/ Form: Large spreading shrub.
Growth: Slow / moderate.
Light Requirements: Part to full shade; moist to average soils.
Flower/Fruit: N/A for landscape.



Fringe Tree, *Chionanthus virginicus*
Landscape Value: Replacement for dogwoods; beloved American "heirloom".
Size/ Form: Large shrub / small tree.
Growth: Moderate.
Site Requirements: Full sun to part shade; wet to well drained soils
Flower/Fruit: Masses of white flowers in spring.



Buckwheat Tree; Black Titi, *Cliftonia monophylla*
Landscape Value: Evergreen, year-round interest.
Size/ Form: Large, upright.
Growth: Moderate.
Site Requirements: Full sun to shade; average to wet soils.
Flower/Fruit: White or pink in early spring.



Saw Palmetto, *Serenoa repens*
Landscape Value: Evergreen, dramatic form.
Size/ Form: Large low shrub.
Growth: Slow / moderate.
Site Requirements: Full sun; dry sandy soils
Flower/Fruit: N/A for landscape.



Dahoon Holly, *Ilex cassine*
Landscape Value: Evergreen; great alternative to privet.
Size/ Form: Large shrub.
Growth: Moderate.
Site Requirements: Full sun to light shade; moist to well drained soils.
Flower/Fruit: Pretty red winter berries foraged by wildlife.



Native Azaleas, *Rhododendron* spp.
Landscape Value: Deciduous specimen or informal hedge.
Size / Form: Large, open.
Growth: Slow to medium.
Site Requirements: Part shade; well drained acidic soils.
Flower/Fruit: Spectacular spring-summer. Flowers; many colors.

MCM Education Outreach

3.1.B-1.3 City Web Page

4/1/19 to 3/31/20 City Web Page-No Updates
http://www.daphneal.com/157/Environmental-Programs
http://www.daphneal.com/161/Environmental-ComplaintsConcerns
http://www.daphneal.com/160/Stormwater-Management
http://www.daphneal.com/159/Get-InvolvedEnvironmental-Documents
http://www.daphneal.com/428/Coastal-Water-Quality-Monitoring
http://www.daphneal.com/432/Coastal-Water-Quality-Reports

MCM 1 Education Outreach
3.1.B-1.4 Hosted or Sponsored Workshop

Title of Workshop	Date	Location
Conservation in Action from the Mountains to the Beaches	6/19-21/2019	Foley Graham Creek
Gulf Coast Watershed Sustainability Workshop	12/3-4/2019	Daphne City Hall



THANK YOU TO OUR SPONSORS!

- City of Foley
- City of Daphne
- City of Gulf Shores
- AL Soil and Water Conservation Committee
- SE Chapter of International Erosion Control Association
- Sunshine Supplies, Inc.
- American Excelsior
- Geosyntec
- Thompson Engineering
- Mobile Bay National Estuary Program
- Norton & Associates
- Filtrexx, Inc.
- Go Green Solutions
- Jade Consulting, LLC
- Volkert, Inc.
- Goodwyn, Mills and Cawood
- Dewberry

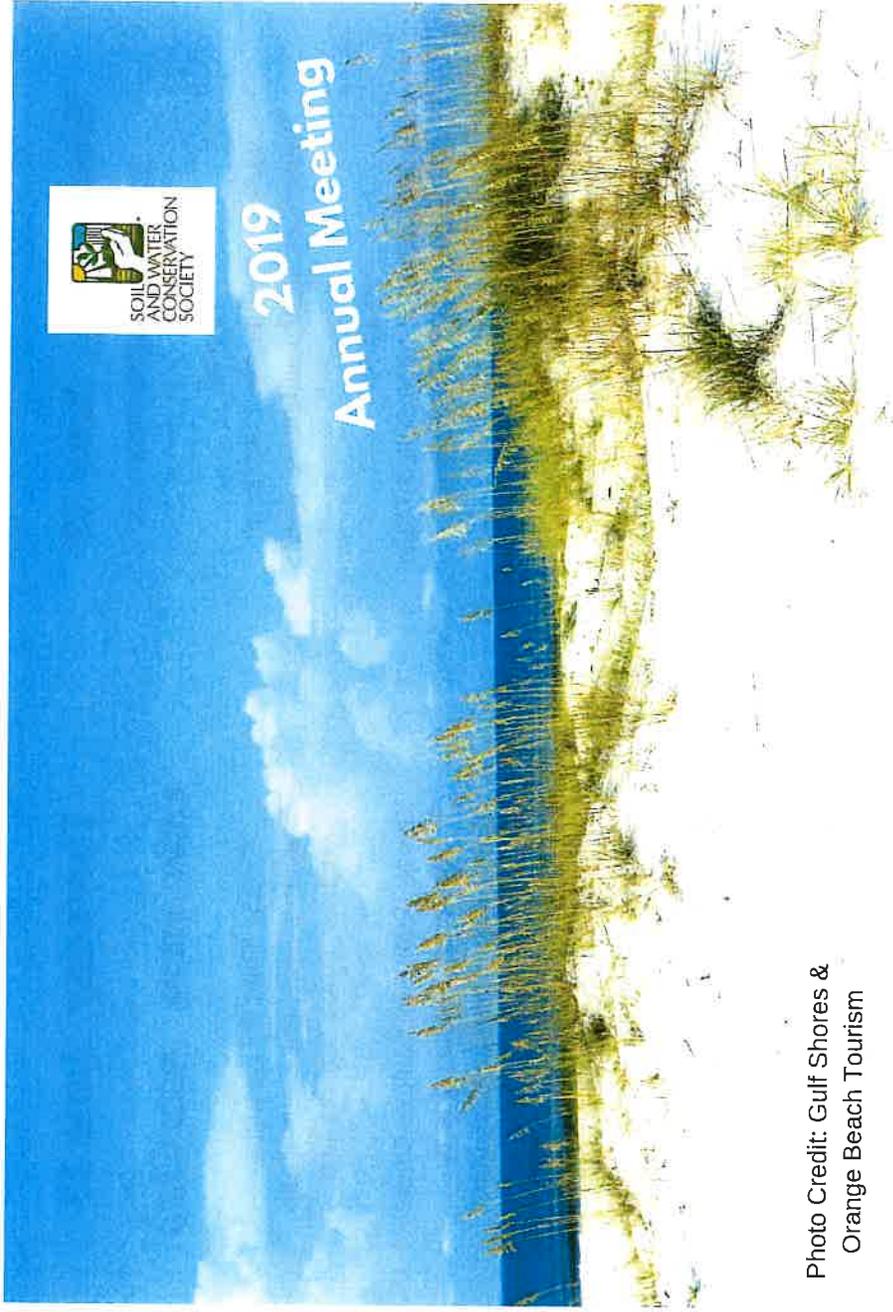
Seafood Dinner Buffet

Thursday @ 6:00 PM

Wolf Bay Lodge

20801 Mifflin Rd Foley,

AL 36535



2019 Annual Meeting

Photo Credit: Gulf Shores & Orange Beach Tourism

CONSERVATION IN ACTION FROM THE MOUNTAINS TO THE BEACHES



23030 Wolf Bay Drive
Foley, AL 36535
Phone: 251-923-4267
Website: www.grahamcreekpreserve.org

JUNE 19-21, 2019



Alabama Soil and Water Conservation Society Annual Meeting

About the Meeting

Meeting Location: The 2019 Alabama SWCS Annual Meeting will be held at the Graham Creek Nature Preserve. More information about the venue is available at <http://grahamcreekpreserve.org/about/>.

Hotel Reservations: Towne Place Suites, Foley at Owa 1070 North Owa Boulevard, Foley, AL 36535, (251)-581-9222 (must specify AL SWCS event) 50 rooms available at \$139 per night until 06/01/19 **Holiday Inn Express & Suites Foley**, 3155 Abbey Lane, Foley, AL 36535, (251)-971-1700 (must specify AL SWCS event) 20 rooms available at \$139 per night until 06/06/19.

Reservations made after this date may be subject to a price increase at the hotel's discretion.

Continuing Education and Professional Development: The conference provides high quality workshop, technical sessions, and a field trip that is relevant to Professional Engineers, Certified Professionals in Erosion and Sediment Control, Certified Crop Advisors, Landscape Architects, and Professional Geologists

Conference Registration: Please register for the conference at your earliest convenience. The registration fee covers all meetings and scheduled events.

Exhibits and Sponsorships: Exhibit and sponsorship opportunities are available. Contact **Ashley Campbell** at (251)-234-7122 or **Skip Ragsdale** at (205) 674-5656 or (205) 790-4334 for additional information or acampbell@daphneal.com & SRagsdale@sunshinesupplies.com.

Questions? Contact Leslie Gahagan at (251)-269-1224, for more information about the meeting.

Conservation in Action from the Mountains to the Beaches

June 19th -21st, 2019



Graham Creek Nature Preserve
Foley, Alabama

Visit our website for more information:

<http://www.alchapterswcs.org>

Gulf Coast Watershed Sustainability Workshop
City Hall Meeting Room
1705 Main Street
Daphne, AL 36526

December 3-4, 2019

Agenda

Tuesday, December 3, 2019

8:30 am Check-in and Coffee
9:00 am Welcome, Roberta Swann, Jason Kudulis, Mobile Bay NEP
9:30 am D'Olive Watershed Restoration Lessons Learned, Greg Jennings
10:30 am Break
11:00 am Vegetation Lessons Learned and Path to Success, Eve Brantley, Gena Todia
11:30 am Local Government Roles in Watershed Sustainability, Ashley Campbell
12:00 pm Lunch
1:00 pm Field Tour of D'Olive Projects
5:00 pm Informal Networking: Bluegill Restaurant, 3775 Battleship Parkway, Spanish Fort

Wednesday, December 4, 2019

8:30 am Check-in and Coffee
9:00 am Introduce Watershed Modeling System (WMS) and Gridded Surface Subsurface
Hydrologic Analysis (GSSHA)
9:30 am How to use WMS interface with GSSHA
10:00 am How to build a GSSHA model
10:30 am Break
10:45 am How to implement detention into a model
11:30 am How to view results
12:00 pm Lunch
Automated GSSHA Watershed Analysis (AGWA)
1:00 pm Open individual models in AGWA
1:30 pm Creating detention workflow utilizing watershed specific models
2:30 pm Break
2:45 pm Reviewing watershed specific model outputs
4:00 pm Adjourn

Thank you to workshop sponsors: Geosyntec, Goodwyn, Mills, Cawood, Hydro-Engineering,
Jade Consulting, Thompson Engineering

Workshop partners Mobile Bay National Estuary Program, City of Daphne, City of Spanish Fort,
Clean Water Future, Auburn University and the Alabama Cooperative Extension System

Thank You 2019 Gulf Coast Watershed Sustainability and Systems Modeling Workshop Sponsors

<p>Geosyntec</p>	
<p>Goodwin Mills Cawood</p>	
<p>Hydro-Engineering Solutions</p>	
<p>Jade Consulting</p>	
<p>Thompson Engineering</p>	

Workshop partners Mobile Bay National Estuary Program, City of Daphne, City of Spanish Fort, Clean Water Future, Auburn University and the Alabama Cooperative Extension System



Purchase Order

Fiscal Year 2020

Page 1 of 1

THIS NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES AND SHIPPING PAPERS.

Purchase Order # **2000872-00**

Delivery must be made within doors of specified destination.

BILL TO

City of Daphne
P.O.Box 400
Daphne, AL 36526
(251) 621-9000

VENDOR

COMPASS BANK - MASTERCARD

SHIP TO

BLDG INSP- 1705 MAIN STREET
251-620-1500
DAPHNE AL 36526

Vendor Phone Number		Vendor Fax Number		Requisition Number		Delivery Reference	
				960			
Date Ordered	Vendor Number	Date Required	Freight Method/Terms			Department/Location	
11/26/2019	8214					BUILDING INSPECTIONS	
Item#	Description/Part No.			Qty	UOM	Unit Price	Extended Price
	The Above Purchase Order Number Must Appear On All Correspondence - Packing Sheets And Bills Of Lading						
1	D 'Olive Watershed Workshop Lunch & Coffee Supplies 168000 - 54425			1.0	EACH	\$600.000	\$600.00
			\$600.00				

By 
Mayor

PO Total

\$600.00

MCM 1

3.1.B-1.5 EO Master Environmental Education Presentations

	Date	MEE Lesson Title	School	Classes	Total Students	Presenter
1	4/11/19	Recycling	Daphne East Elementary	1	21	Amy Newbold
2	4/11/19	Recycling	Daphne East Elementary	1	20	Amy Newbold
3	4/11/19	Recycling	Daphne East Elementary	1	21	Amy Newbold
4	4/26/19	Backyard Habitat	Daphne East Elementary	1	17	Amy Newbold
5	10/24/19	Stormwater	Daphne High School	4	148	Ashley Eileen Housman
6	10/25/19	Stormwater	Daphne High School	4	123	Amy Newbold & Sarah
7	10/30/19	Backyard Habitat	Daphne East	4	87	Amy & Bob
8	11/7/19	AWW	Daphne High School	4	117	Amy Newbold & Mom
9	11/8/19	AWW	Daphne High School	4	107	Ashley & Bob
10	11/15/19	Backyard Habitat	Daphne East	4	116	Amy Newbold
11	11/22/19	The Water Cycle	Taylor White Elementary	3	71	Amy Newbold
12	12/5/19	Invasives	Daphne High School	4	117	Ashley Campbell
13	12/6/19	Invasives	Daphne High School	4	105	Amy Newbold
14	12/10/19	Stormwater	Daphne East Elem		110	Ashley & Amy
15	1/9/20	Aquatic Nuisance Species	Daphne High School	4	155	Amy Newbold
16	1/10/20	Aquatic Nuisance Species	Daphne High School	4	128	Amy Newbold
17	1/17/20	Recycling	Daphne Elementary	1	20	Ashley Campbell
18	1/17/20	Recycling	Daphne Elementary	1	23	Ashley Campbell
19	1/17/20	Recycling	Daphne Elementary	1	20	Ashley Campbell
20	1/17/20	Recycling	Daphne Elementary	1	19	Ashley Campbell
21	2/6/20	Groundwater Pollution	Daphne High School	4	109	Ashley Campbell & Bob
22	2/7/20	Groundwater Pollution	Daphne High School	4	155	Amy Newbold & Barbara
23	2/11/20	Water Cycle	Daphne East Elementary	2	42	Amy Newbold
24	2/11/20	Water Cycle	Daphne East Elementary	2	39	Amy Newbold
25	2/11/20	Water Cycle	Daphne East Elementary	2	43	Amy Newbold
26	2/12/20	Water Cycle	Daphne East Elementary	2	43	Amy Newbold
				67	1976	



ENVIRONMENTAL STEWARDSHIP

Educating students to protect our coastal environment

Baldwin County 4-H Master Environmental Education Volunteers engaged with 5,896 young people to help give them an understanding and appreciation of the environment in their own backyards.

Master Environmental Education
MEE



198 LESSONS TAUGHT



27 SCHOOLS



393 VOULUNTEER HOURS



5,896 YOUTH REACHED

5,896

Youth Reached in
Baldwin County, 2019-2020

Alabama Water Watch * Aquatic Nuisance Species * Backyard Wildlife Habitat
Energy * Groundwater Pollution * Invasive Plant Species
Recycling * Stormwater Pollution * Water Cycle



The Alabama Cooperative Extension System (Alabama A&M University and Auburn University) is an equal opportunity educator and employer. Everyone is welcome! Please let us know if you have accessibility needs.

VOLUNTEER OPPORTUNITIES!



TEACH STUDENTS ENVIRONMENTAL STEWARDSHIP



FREE TRAINING – AUGUST 20, 2020

8:45 AM REGISTRATION

TRAINING 9:00 AM – 4:00 PM

GULF COAST RESEARCH & EXT. CENTER

8300 HWY 104, FAIRHOPE

**Master
Environmental
Education
MEE**

Volunteers with Alabama Cooperative Extension System travel throughout Baldwin County to public and private schools to present environmental lessons to students.

Baldwin County Extension Office
302-A Byrne Street
Bay Minette, AL 36507
937-7176



Registration Required. Call the Baldwin County Extension Office, Charlotte Roberts @ 348-0462 or email Cathy Banning at bannicj@aces.edu



THE ALABAMA COOPERATIVE EXTENSION SYSTEM (ALABAMA A&M UNIVERSITY AND AUBURN UNIVERSITY), IS AN EQUAL OPPORTUNITY EDUCATOR AND EMPLOYER. EVERYONE IS WELCOME! BALDWIN COUNTY PROGRAMS ARE SUPPORTED BY THE BALDWIN COUNTY COMMISSION.



Certificate of Appreciation

Presented to



Ashley Campbell

For volunteering and teaching environmental
education in Baldwin County

2019-2020

Charlotte Roberts

Charlotte Roberts, Agent Assistant





Baldwin County Extension Office
 302-A Byrne Street
 Bay Minette, AL 36507
 (251) 937-7176
 928-3002/943-5061 ext. 2222

**MASTER ENVIRONMENTAL EDUCATOR
 PRESENTATION REPORT FORM**

To be filled out by School Teacher:

Presentation Title: Stormwater Pollution

Date: 10/25/19

School Name: Daphne High School

Grade: 9th-12th

Teacher's Name: Dabney / Anderton

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	90	31		2			123	76	47
Adults	2						2	0	2

Teacher Evaluation:

- | | | |
|--|-----------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 4 3 2 1 | |
| 2. Would you schedule this lesson again? | Yes No | |
| 3. Did this lesson meet your curriculum needs? | Yes No | |
| 4. What information do you feel was most helpful for your students? Additional Comments: | | |

Doing a campus cleanup after presentation was an engaging activity.

Students Raise Your Hand

- Will you pick up trash along your road? # ALL.
- Will you volunteer for the next Coastal Clean Up? # _____

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Amy Newbold Hours: 7.5 hrs

Name: Sarah Butterworth Hours: " "

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: If you are teaching the same class twice on the same day, this information can be combined on one report form.

4 blocks → 6 classes

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Ashley Campbell Hours: 7.5

Name: Elena Hasman Hours: 7.5

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: ~~Amy Newbold~~ Hours: ~~1~~

Name: ~~Barbara Armstrong~~ Hours: ~~1~~

Ashley Campbell 4

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: If you are teaching the same class twice on the same day, this information can be combined on one report form.

Bob Young 4



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**MASTER ENVIRONMENTAL EDUCATION
 PRESENTATION REPORT FORM**

To be filled out by School Teacher:

Presentation Title: Groundwater Pollution Date: 2/7/2020
 School Name: Daphne High Grade: 9th-12th
 Teacher's Name: Dabney / Anderton

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	124	26		5			155	101	54
Adults									

Teacher Evaluation:

- | | | |
|---|-----------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5
4
3
2
1 | |
| 2. Would you schedule this lesson again? | Yes No | |
| 3. Did this lesson meet your curriculum needs? | Yes No | |
| 4. What information do you feel was most helpful for your students? Any comments? | | |

Students Raise Your Hand

- Can you name a common household product that is hazardous to the groundwater? # _____
- Will you encourage your parents to read product label directions for application of fertilizers and pesticides? # _____

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Amy Newbold Hours: 9

Name: Barbara Armstrong Hours: 9

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*



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**MASTER ENVIRONMENTAL EDUCATOR
 PRESENTATION REPORT FORM**

To be filled out by School Teacher:

Presentation Title: Stormwater Pollution

Date: 12/10/19

School Name: Daphne East Elementary

Grade: 6

Teacher's Name: Shay Cunningham

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	79	30		1			110		
Adults									

Teacher Evaluation:

- | | | |
|---|-----------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5
4
3
2
1 | |
| 2. Would you schedule this lesson again? | Yes
No | |
| 3. Did this lesson meet your curriculum needs? | Yes
No | |
| 4. What information do you feel was most helpful for your students? | Additional Comments: | |

Human impact on water system.

Students Raise Your Hand

- Will you pick up trash along your road? # 110
- Will you volunteer for the next Coastal Clean Up? # 110

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Ashley Campbell Hours: 5

Name: Amy Newbold Hours: 5

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*



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**MASTER ENVIRONMENTAL EDUCATOR
 PRESENTATION REPORT FORM**

To be filled out by School Teacher:

Presentation Title: Invasive Plant Species

Date: 12-6-19

School Name: Daphne High School

Grade: 9-12

Teacher's Name: Anderlin Dabney

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	82	23	2				105	69	36
Adults	2						2		2

Teacher Evaluation:

- | | | |
|--|-----------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 4 3 2 1 | |
| 2. Would you schedule this lesson again? | Yes No | |
| 3. Did this lesson meet your curriculum needs? | Yes No | |
| 4. What information do you feel was most helpful for your students? Additional Comments. | | |

Walking and identifying was great!

Students Raise Your Hand

- Can you identify at least one of the invasive plants if you saw it? # after walking 100%
- Do you know one thing that you can do to help prevent the spread of invasive plants?
 # all

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Amy Newbold Hours: 8

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

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MASTER ENVIRONMENTAL EDUCATOR
 PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Invasives Date: 12-5-19
 School Name: DITS Grade: 9-12
 Teacher's Name: Betsy Anderson

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth							117		
Adults									

Teacher Evaluation:

- | | Outstanding | | | Poor | |
|--|-------------|----|---|------|---|
| 1. How would you rate this presentation? | 5 | 4 | 3 | 2 | 1 |
| 2. Would you schedule this lesson again? | Yes | No | | | |
| 3. Did this lesson meet your curriculum needs? | Yes | No | | | |
| 4. Would you like information about additional Extension educational programs? | Yes | | | No | |
| 5. What information do you feel was most helpful for your students? | | | | | |

6. Additional Comments:

Josh Roberts 730 - 300 2.5
 Ashley Campbell 730 - 300 2.5



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**MASTER ENVIRONMENTAL EDUCATOR
 PRESENTATION REPORT FORM**

To be filled out by School Teacher:

Presentation Title: Backyard Wildlife Habitat Date: 11-15-19
 School Name: Daphne East Grade: 1
 Teacher's Name: Yelding

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	23	16	6	1			23	12	11
Adults	1								

Teacher Evaluation:

- | | | |
|---|-----------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 4 3 2 1 | |
| 2. Would you schedule this lesson again? | Yes No | |
| 3. Did this lesson meet your curriculum needs? | Yes No | |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |
| <u>vocabulary/terminology</u> | | |

Students Raise Your Hand:

- How many of you will go home and make a bird feeder? # 15
- Can you name one new bird because of this lesson? # 22
- Will ask your parents to consider leaving water out for backyard wildlife? # 12

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

11/15 (1)

Name: _____ Hours: _____

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

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MASTER ENVIRONMENTAL EDUCATOR PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Backyard Wildlife Habitat Date: 11-15-19
 School Name: Daphne East Elementary Grade: First
 Teacher's Name: Weinacker + Bruce

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	26	13	-	1	4	-	44	20	24
Adults	2								

Teacher Evaluation:

- | | | |
|---|--------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 4 3 2 1 | |
| 2. Would you schedule this lesson again? | Yes No | |
| 3. Did this lesson meet your curriculum needs? | Yes No | |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

*Information on local animals.
 Impact of trash on those animals.*

Students Raise Your Hand:

- How many of you will go home and make a bird feeder? # 39
- Can you name one new bird because of this lesson? # 30
- Will ask your parents to consider leaving water out for backyard wildlife? # 22

11/15

②

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: _____ Hours: _____

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

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**MASTER ENVIRONMENTAL EDUCATOR
 PRESENTATION REPORT FORM**

To be filled out by School Teacher:

Presentation Title: Backyard Wildlife Habitat Date: 11-15-19
 School Name: Daphne East Grade: 1
 Teacher's Name: Ms. Kristyn Cain

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	18	6					24		
Adults	1								

Teacher Evaluation:

- | | | |
|---|--------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 | 1 |
| 2. Would you schedule this lesson again? | Yes | No |
| 3. Did this lesson meet your curriculum needs? | Yes | No |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

Students loved it. They have already started talking about making bird feeders and bird baths at home.

Students Raise Your Hand:

- How many of you will go home and make a bird feeder? # 17
- Can you name one new bird because of this lesson? # 10
- Will ask your parents to consider leaving water out for backyard wildlife? # 21

11/15 (S)

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: _____ **Hours:** _____

Name: _____ **Hours:** _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

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MASTER ENVIRONMENTAL EDUCATOR PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Backyard Wildlife Habitat

Date: 11/15/19

School Name: Daphne East

Grade: 1st

Teacher's Name: Sheils

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	21	4					25	13	12
Adults									

Teacher Evaluation:

- | | | |
|---|-----------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5
4
3
2
1 | |
| 2. Would you schedule this lesson again? | Yes
No | |
| 3. Did this lesson meet your curriculum needs? | Yes
No | |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

Students Raise Your Hand:

1. How many of you will go home and make a bird feeder? # 21
2. Can you name one new bird because of this lesson? # 25
3. Will ask your parents to consider leaving water out for backyard wildlife? # 15

11/15

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Amy Newbold Hours: 7

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

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MASTER ENVIRONMENTAL EDUCATION
 PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Recycling Date: 1-17-20
 School Name: Daphne Elementary Grade: 3
 Teacher's Name: Tina Bowen

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	14	6					20	10	10
Adults									

Teacher Evaluation:

- | | | |
|---|---|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 4 3 2 1 | |
| 2. Would you schedule this lesson again? | Yes No | |
| 3. Did this lesson meet your curriculum needs? | Yes No | |
| 4. What information do you feel was most helpful for your students? Any Comments: | <p><i>Learning about the little things we can do to help our environment.</i></p> | |

Students Raise Your Hand:

- After learning about recycling how many of you will you ask your parents to begin recycling at your house? # 20
- How many of you will pick up a piece of litter when you see it at school? # 20



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MASTER ENVIRONMENTAL EDUCATION
 PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Recycling

Date: 1/17/20

School Name: DES

Grade: 3rd

Teacher's Name: Noite

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	15	5		2	1		23	11	12
Adults									

Teacher Evaluation:

- | | | |
|---|--------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 | 1 |
| 2. Would you schedule this lesson again? | Yes | No |
| 3. Did this lesson meet your curriculum needs? | Yes | No |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

Students Raise Your Hand:

- After learning about recycling how many of you will you ask your parents to begin recycling at your house? # 23
- How many of you will pick up a piece of litter when you see it at school? # 23



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**MASTER ENVIRONMENTAL EDUCATION
 PRESENTATION REPORT FORM**

To be filled out by School Teacher:

Presentation Title: Recycling Date: _____

School Name: _____ Grade: _____

Teacher's Name: _____

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	12	7			1		20	9	11
Adults	1								1

Teacher Evaluation:

Outstanding

Poor

- | | | | | | |
|---|-----|----|---|---|---|
| 1. How would you rate this presentation? | 5 | 4 | 3 | 2 | 1 |
| 2. Would you schedule this lesson again? | Yes | No | | | |
| 3. Did this lesson meet your curriculum needs? | Yes | No | | | |
| 4. What information do you feel was most helpful for your students? Any Comments: | | | | | |

Students Raise Your Hand:

- After learning about recycling how many of you will you ask your parents to begin recycling at your house? # 20
- How many of you will pick up a piece of litter when you see it at school? # 20



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MASTER ENVIRONMENTAL EDUCATION
 PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Recycling Date: 1-17
 School Name: Daphne Elementary Grade: 3
 Teacher's Name: B. Stefano

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	14	4					19	9	10
Adults									

Teacher Evaluation:

- | | Outstanding | Poor |
|---|-------------|------|
| 1. How would you rate this presentation? | 5 | 1 |
| 2. Would you schedule this lesson again? | Yes | No |
| 3. Did this lesson meet your curriculum needs? | Yes | No |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

They like to learn about the landfill.

Students Raise Your Hand:

- After learning about recycling how many of you will you ask your parents to begin recycling at your house? # 19
- How many of you will pick up a piece of litter when you see it at school? # 19

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Ashly Campbell Hours: 3

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*



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MASTER ENVIRONMENTAL EDUCATION
 PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: The Water Cycle
 School Name: Taylor White Elem.
 Teacher's Name: Mrs. Cronk

Date: 11/22/19
 Grade: 2nd

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	9	4		2	1		16	9	7
Adults	1								

Teacher Evaluation:

- | | | |
|--|--------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5
<u>5</u> | 1 |
| 2. Would you schedule this lesson again? | Yes
<u>Yes</u> | No |
| 3. Did this lesson meet your curriculum needs? | Yes
<u>Yes</u> | No |
| 4. What information do you feel was most helpful for your students? Additional Comments: | | |

Students Raise Your Hand

- How many of you will you start a practice (such as turning off the water when you brush your teeth or taking a shorter shower) since you learned about water conservation in this lesson?
16 (# of students)
- How many of you can name the four stages of the water cycle? 16 (# of students)

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Send 3 hours for Both Hours: _____

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*



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MASTER ENVIRONMENTAL EDUCATION PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: The Water Cycle Date: 11-22-19
 School Name: Taylor-White Elem. Grade: 2nd
 Teacher's Name: Mrs. Allen, Mrs. Cronk, Mrs. Pierce

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	11	9	1	1	1	1	21	11	10
Adults	3	1	1	1	1	1	3	1	3

Teacher Evaluation:

- | | | |
|--|--------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5
<u>5</u> | 1 |
| 2. Would you schedule this lesson again? | Yes
<u>Yes</u> | No |
| 3. Did this lesson meet your curriculum needs? | Yes
<u>Yes</u> | No |
| 4. What information do you feel was most helpful for your students? Additional Comments: | | |

The visual demo of water cycle

Students Raise Your Hand

- How many of you will you start a practice (such as turning off the water when you brush your teeth or taking a shorter shower) since you learned about water conservation in this lesson?
21 (# of students)
- How many of you can name the four stages of the water cycle? 21 (# of students)

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Amy Newbold Hours: 3

Name: Amy Newbold Hours: 3

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*



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MASTER ENVIRONMENTAL EDUCATOR PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Backyard Wildlife Habitat

Date: 11-15-19

School Name: Daphne East

Grade: 1

Teacher's Name: Yelding

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	23	6	1				23	12	11
Adults	1								

Teacher Evaluation:

- | | | |
|---|---|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 <input checked="" type="radio"/> 3 | 2 1 |
| 2. Would you schedule this lesson again? | <input checked="" type="radio"/> Yes <input type="radio"/> No | |
| 3. Did this lesson meet your curriculum needs? | <input checked="" type="radio"/> Yes <input type="radio"/> No | |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

vocabulary / terminology

Students Raise Your Hand:

1. How many of you will go home and make a bird feeder? # 15
2. Can you name one new bird because of this lesson? # 22
3. Will ask your parents to consider leaving water out for backyard wildlife? # 12

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

11/15 (1)

Name: _____ Hours: _____

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*



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MASTER ENVIRONMENTAL EDUCATOR PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Backyard Wildlife Habitat Date: 11-15-19
 School Name: Daphne East Elementary Grade: First
 Teacher's Name: Weinacker + Bruce

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	26	13	-	1	4	-	44	20	24
Adults	2								

Teacher Evaluation:

- | | | |
|---|-----------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5 4 3 2 1 | |
| 2. Would you schedule this lesson again? | Yes No | |
| 3. Did this lesson meet your curriculum needs? | Yes No | |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

*Information on local animals.
 Impact of trash on those animals.*

Students Raise Your Hand:

1. How many of you will go home and make a bird feeder? # 39
2. Can you name one new bird because of this lesson? # 30
3. Will ask your parents to consider leaving water out for backyard wildlife? # 22

11/15

(2)

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: _____ **Hours:** _____

Name: _____ **Hours:** _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*

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11/15 (J)

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: _____ Hours: _____

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

NOTE: *If you are teaching the same class twice on the same day, this information can be combined on one report form.*

Alabama Cooperative Extension System (Alabama A&M University and Auburn University) is committed to affirmative action, equal opportunity and the diversity of its workforce. Educational programs serve all people regardless of race, color, national origin, age, disability, sex, gender identity, marital status, family/parental status, religion, sexual orientation, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. Baldwin County Extension Programs are supported by the Baldwin County Commission.



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MASTER ENVIRONMENTAL EDUCATOR PRESENTATION REPORT FORM

To be filled out by School Teacher:

Presentation Title: Backyard Wildlife Habitat

Date: 11/15/19

School Name: Daphne East

Grade: 1st

Teacher's Name: Sheils

Group	White	Black	Native Am	Hispanic	Asian	Other	TOTALS	Male	Female
Youth	21	4					25	13	12
Adults									

Teacher Evaluation:

- | | | |
|---|--------------------|-------------|
| | Outstanding | Poor |
| 1. How would you rate this presentation? | 5
<u>5</u> | 1 |
| 2. Would you schedule this lesson again? | Yes
<u>Yes</u> | No |
| 3. Did this lesson meet your curriculum needs? | Yes
<u>Yes</u> | No |
| 4. What information do you feel was most helpful for your students? Any Comments: | | |

Students Raise Your Hand:

1. How many of you will go home and make a bird feeder? # 21
2. Can you name one new bird because of this lesson? # 25
3. Will ask your parents to consider leaving water out for backyard wildlife? # 15

(4)

11/15

TO BE FILLED OUT BY MASTER ENVIRONMENTAL EDUCATOR

Name: Amy Newbold Hours: 7

Name: _____ Hours: _____

Include time driving to pick up and return equipment box, as well as setting up equipment, preparation and teaching school.)

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MCM 1 Education Outreach
3.1.B-1.5 Classroom Conference/Meeting Presentations

School Age and Other Presentations	Date	Topic
Clear Water Alabama 2019-Spring to Action for Clear Water	10/23/19	Protecting Alabama's Waters-Communities Partnering with the US EPA

Clear Water Alabama 2019
Spring to Action for Clear Water
Wednesday October 23 - Seminar Agenda
(6.0 PDUs or 0.6 CEUs)

Purpose: Provide relevant training to erosion and sediment control professionals and others involved in planning, designing, installing, and inspecting erosion control, sediment control and stormwater management systems.

Morning Moderator – Earl Norton, CPESC, AL Soil and Water Conservation Committee

- 8:00 a.m. **Welcome and Plans for the Day**
Bill Puckett, PhD, AL Soil and Water Conservation Committee, Montgomery, AL
- 8:10 a.m. **Welcome to Prattville**
Honorable Bill Gillespie, Mayor, City of Prattville, AL
- 8:15 a.m. **Keynote: From Springs to Action, What Follows Our Bicentennial?**
Bill Deutsch, PhD, Auburn University
- 9:00 a.m. **Update: ADEM Regulations**
James Carlson, P.E., Alabama Department of Environmental Management, Montgomery, AL
- 9:30 a.m. **Break and Meet Your Industry Reps** (industry sponsors, 90 seconds each)
- 10:00 a.m. **ESC Projects in Georgia**
Luke Owen, PG, MS4CECI, NPDES Stormwater Training Institute, Suwanee, GA
- 10:45 a.m. **Multifunctional Stormwater Management and Long-Term Maintenance: Lessons Learned in the Gulf Coast**
Anthony Kendrick, Stormwater System Solutions, Houston, TX
- 11:30 a.m. **Tree Preservation**
Russell Stringer, Urban Forester, Montgomery, AL
- 12:10 p.m. **Lunch and Visit Your Industry Reps**

Clear Water Alabama 2019
Spring to Action for Clear Water
Wednesday October 23 - Seminar Agenda

Afternoon Moderator – Perry Oakes, P.E., Consultant to AL Erosion and Sediment Control Partnership

- 1:00 p.m. **Protecting Alabama's Waters - Communities Partnering with the US EPA
Non-Point Source Management Program**
Ashley Campbell, CPESC, City of Daphne, AL
- 1:30 p.m. **Research Results at Auburn University Erosion and Sediment Control Test Facility**
Wesley Donald, PhD, Auburn University, Auburn, AL
- 2:15 p.m. **Break and Product Reviews with Exhibitors**
- 2:45 p.m. **Stream Restoration and Watershed Health**
Alex James, M.S., Environmental Consultant, Wetumpka, AL
- 3:15 p.m. **Professional Ethics**
Griffin Pritchard, P.E., AL Board of Licensure for Professional Engineers and Land
Surveyors, Montgomery, AL
- 3:45 p.m. **Alabama: The State of Stormwater**
Barry Fagan, P.E./PLS, CPESC, CPMSM, CESSWI, ENV SP, Volkert, Montgomery, AL
- 4:15 p.m. **End Seminar and pick up Seminar Certificate**
- 4:20 **Alabama Stormwater Association Information Exchange** ASA Board

The Clear Water Alabama Seminar and Field Day are offered by the Alabama Erosion and Sediment Control Partnership to help planners, designers, contractors, inspectors, and others learn more about erosion and sediment control practices and products.

Partnership Members

- AL Soil and Water Conservation Committee
- AL Associated General Contractors
- AL Association of Conservation Districts
- AL Chapter Soil and Water Conservation Society
- AL Department of Environmental Management
- AL Department of Transportation
- Auburn University
- Alabama Cooperative Extension System
- Home Builders Association of AL
- Natural Resources Conservation Service
- Weeks Bay National Estuarine Research Reserve

Industry Sponsors (Tentative)

- Alabama Power Company
- American Excelsior Company
- Erosion Pros, LLC
- Hanes Geo Components
- Hydro-Engineering Solutions
- J.W. Faircloth & Son, Inc.
- Midwest Construction Products
- Motz Enterprises, Inc.
- Pennington Seed, Inc.
- Southeast Environmental Consultants
- Sunshine Supplies, Inc.
- Thompson Engineering, Inc.
- Volkert, Inc.

Who Should Attend:

- Representatives from construction firms that utilize/install BMPs on their sites
- Professional Engineers
- Road Builders
- Representatives from firms that prepare erosion control/stormwater plans
- County and city engineers, planners, and/or their staff
- Representatives of local Home Builders Association and Associated General Contractors
- Representatives from the Alabama Department of Transportation
- Inspectors from the Alabama Department of Environmental Management
- Soil and Water Conservation District Boards and their field employees
- Municipal Officials
- Certified Professionals in Erosion and Sediment Control, Landscape Architects, Registered Soil Scientist, and other Qualified Credentialed Professionals
- Staff of the Natural Resources Conservation Service

For more information contact:

Earl Norton
Erosion & Sediment Control
Program Coordinator
334-728-4107



2019
Clear Water Alabama
Seminar and Field Day

Prattville, AL
October 23-24, 2019
Doster Community Center

Spring to Action
for
Clear Water



Brought to you by:
Alabama Erosion and Sediment Control Partnership

Sponsored locally by:
 City of Prattville
 Autauga County Conservation District
 Autauga County Commission
 Montgomery County Conservation District
 City of Montgomery
 AL Department of Transportation

October 23, 2019 - Seminar

(6.0 PDHs)

- 7:00-8:00 am Registration/Exhibits
- 8:00-4:30 pm Seminar
- 4:30-5:00 pm AL Stormwater Association Business Meeting

Seminar Topics Include:

- Keynote: Spring to Action for Clear Water (Dr. Bill Deutsch)
- ADEM Regulation Update
- Protecting Water Quality During Construction
- LID and Green Infrastructure Case Studies
- Storm Protection Case Studies
- Auburn University ESC Test Facility Update
- Professional Ethics
- Status of Erosion and Sediment Control in AL

October 24, 2019 - Field Day

(3.5 PDHs)

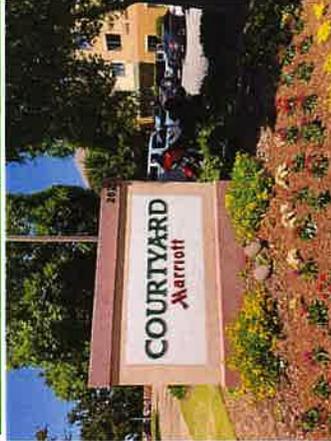
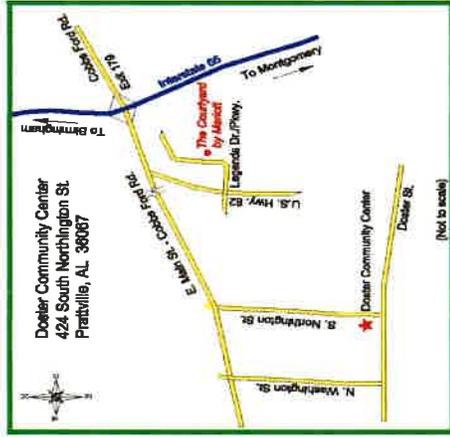
- 7:30 - 9:00 am Registration/Exhibits
- 8:00 - 9:00 am QCI Training*
- 9:00 - 4:00 pm Field Day Site Visits

*See footnote in the registration form for more detail about the QCI training. This is for HBAA certified QCI participants ONLY.

Lunch and Certificates of Training will be provided each day. Contact hours will be included on the Certificates of Training to reflect the continuing education units.

**ALL FIELD DAY PARTICIPANTS
WILL BE REQUIRED TO SIGN A
WAIVER OF LIABILITY**

MAP



A limited number of rooms have been blocked for a discounted rate at the Courtyard by Marriott Prattville
2620 Legends Parkway
Prattville, AL 36066

Make reservations prior to October 14, 2019 for discounted rate.
[Book your group rate for Clear Water Alabama 2019](#)
If registering by mail and check, call (334) 290-1270 and request the discounted rate for Clear Water AL.

REGISTRATION FORM

Register online at: <http://ces.auburn.edu/clearwater> or register by mail and check using the form below.

Early Bird Registration Options (Cutoff October 14, 2019)

Registration for October 23-24, 2019:

I will attend both the Seminar and Field Day	\$175.00
I will attend the Seminar Only	\$100.00
I will attend the Field Day Only	\$100.00
Late Registration Fee after October 14, 2019	\$50.00
Additional fee for QCI Training with Field Day	\$95.00*
Total Registration	

Student Scholarships available—Professors call Earl Norton at 334-728-4107

*QCI training is applicable only to QCI's certified by HBAA and requires an additional fee of \$95. Classroom Training and the 9:00-4:00 Field Day activities completes the mandatory +hr continuing education requirement for individuals. For more information on QCI Training contact Louise Brown by phone at 1-800-745-4222 or by email at louisbrown@HBAA.org.

Mail Check and Registration Form to: Soil & Water Conservation Society-AL Chapter
Attention: Earl Norton
PO Box 116
Auburn, AL 36831

NAME:

AGENCY/COMPANY:

MAILING ADDRESS:

CITY:

STATE:

ZIP CODE:

WORK PHONE:

CELL PHONE:

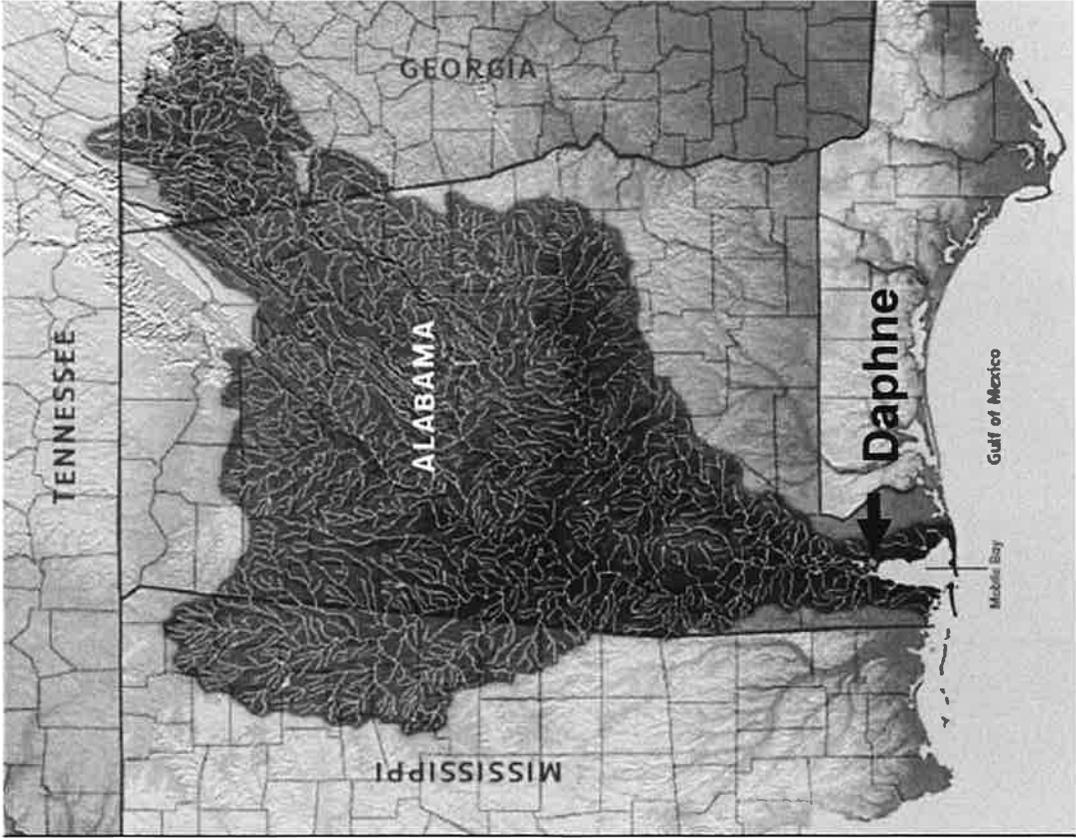
EMAIL ADDRESS:



Clear Water AL



Protecting Alabama's Waters
Communities Partnering with the
U.S. EPA's Nonpoint Source Management Program



- **Daphne is along the Eastern Shore of Mobile Bay, a National Estuary.**
- **65% of the State of Alabama and portions of Mississippi, Georgia and Tennessee flows into Mobile Bay.**
- **Daphne**
 - **Phase II MS4**
 - **17.3 Square Miles**
 - **2005 Population 18,538**
 - **2017 Population 25,960**

1978 D'Olive Creek

**Lake Forest
Subdivision
Development**





Big Problems!



Help!



Mobile Bay National Estuary Program to the Rescue!

- D'Olive Watershed Working Group
- Watershed Study
- 5 Streams Listed on 303d List
- Watershed Management Plan



D'Olive Watershed Working Group

Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section
Alabama Department of Environmental Management
Alabama Department of Transportation
AT&T
Baldwin County
City of Daphne
City of Spanish Fort
Coastal Alabama Clean Water Partnership
Cypress/Spanish Fort LLP
Geological Survey of Alabama
Lake Forest Improvement Committee
Lake Forest Property Owners Association
Malbis Properties
Mobile Bay National Estuary Program
Natural Resources Conservation Service
State Representative Randy Davis
Tonsmeire Properties
U. S. Army Corps of Engineers
U. S. Fish and Wildlife Service
U. S. Representative Jo Bonner



Watershed Management Planning

Step 1-Partnerships

- Daphne Citizens (Lake Forest Subdivision POA)
- Mobile Bay National Estuary Program (MBNEP)
- Alabama Department of Environmental Management (ADEM)
- Other State & Federal Partners

Steps to Effective

This section uses six basic steps to describe how to develop and implement an effective watershed plan. These steps provide a road map for you to follow to achieve your watershed goals.



Step 3-Goals, Objectives, Measures, etc.

- Review Multi-Jurisdictional Stormwater Regulations
- Hydrology Assessment
- Restoration Plan of Priority Areas

Step 2-Watershed Studies

- Water Quality
- Sediment
- Wetlands
- Streams

Step 4-6 Plan & Implement

- Be Ready



Step 1-Partnerships

- Environmental Advisory Committee (EAC) – Daphne Citizens
- PIC, SAC, CAC, Mobile Bay National Estuary Program (MBNEP)
- Alabama Department of Environmental Management (ADEM)
- National Fish & Wildlife Foundation (NFWF)
- Baldwin County, Daphne & Spanish Fort Intergovernmental Task Force

These steps provide a road map for you to follow to achieve your watershed goals.

Step 3-Goals, Objectives, Outcomes & Outcomes... Regulation Review for Watershed Completed

- Updated Storm Water Treatment
- First Flush
- Stream Buffers
- Wetland Buffers

Hydrology Report Completed

- Subdivision Review
- Restoration Modeling

Restoration of Priority Areas

- Joe's Branch 1st
- Restorations & Retrofits of 10 more sites

EPA Guidance-A Quick Guide to Developing Watershed Plans, EPA 841-R-13-003, 2013

Step 2-Watershed Studies

- MS4 Requirements Compliment WMP Efforts

adjustments

Step 4-6 Plan & Implement

- We (all partners) were ready
- NFWF Oil Spill Funds\$\$\$\$\$



2011 Joe's Branch JB

2014 Joe's Branch JB

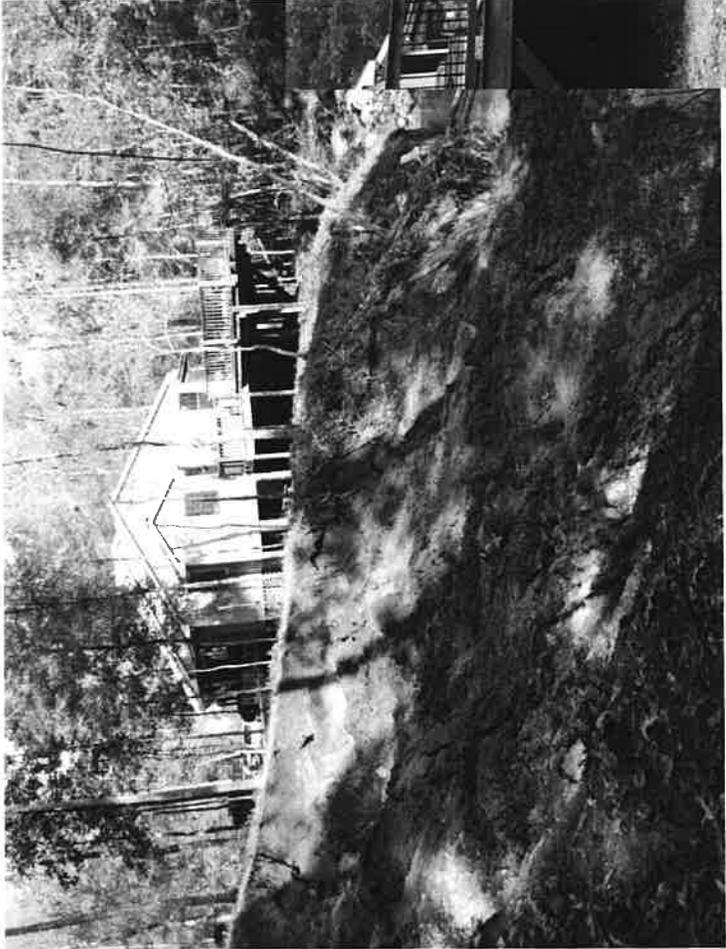




2007 D'Olive Creek D4-D6

2018 D'Olive Creek D4-D6





2009 D'Olive Creek DAF

2019 D'Olive Creek DAF

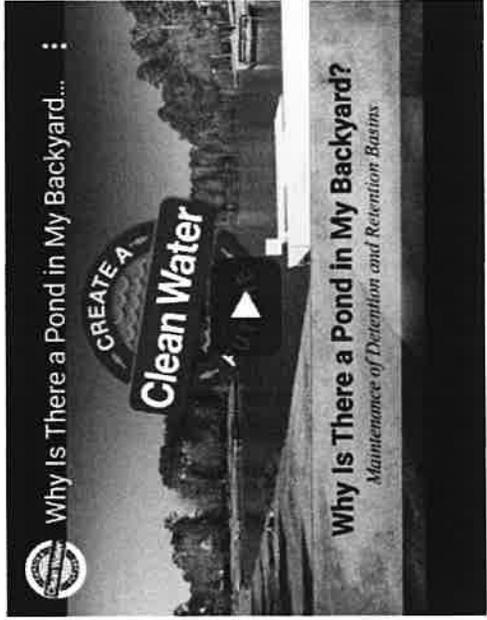




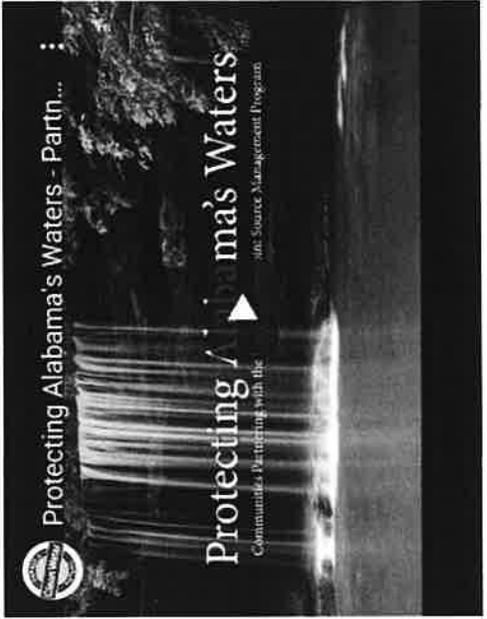
2018 D'Olive Creek DAF 1A

2019 D'Olive Creek DAF

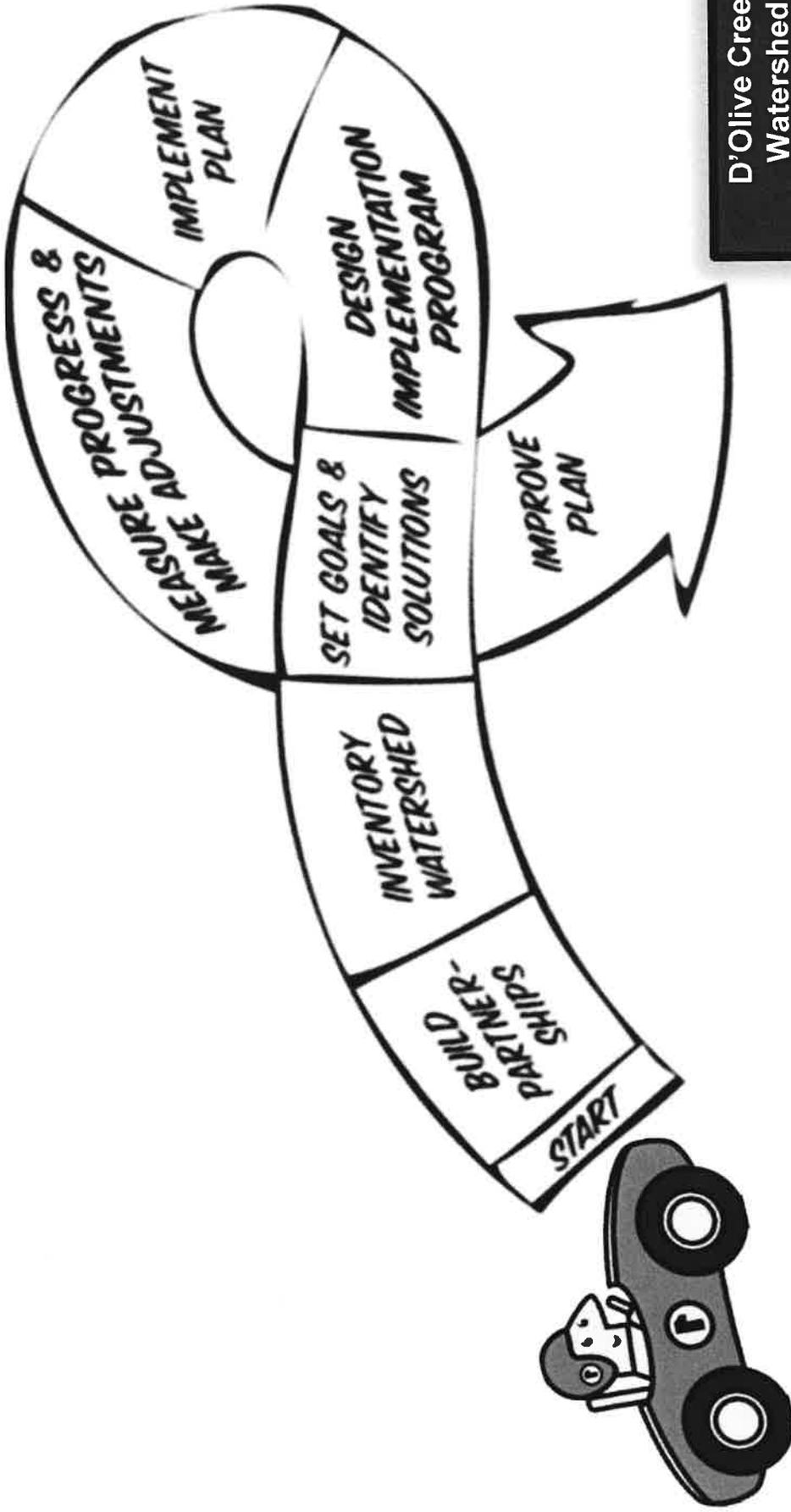




Why Is There a Pond in My Backyard - Maintenance Requirements for Detention & Retention Basins Download MP4 (Click link, then select download from the top menu)

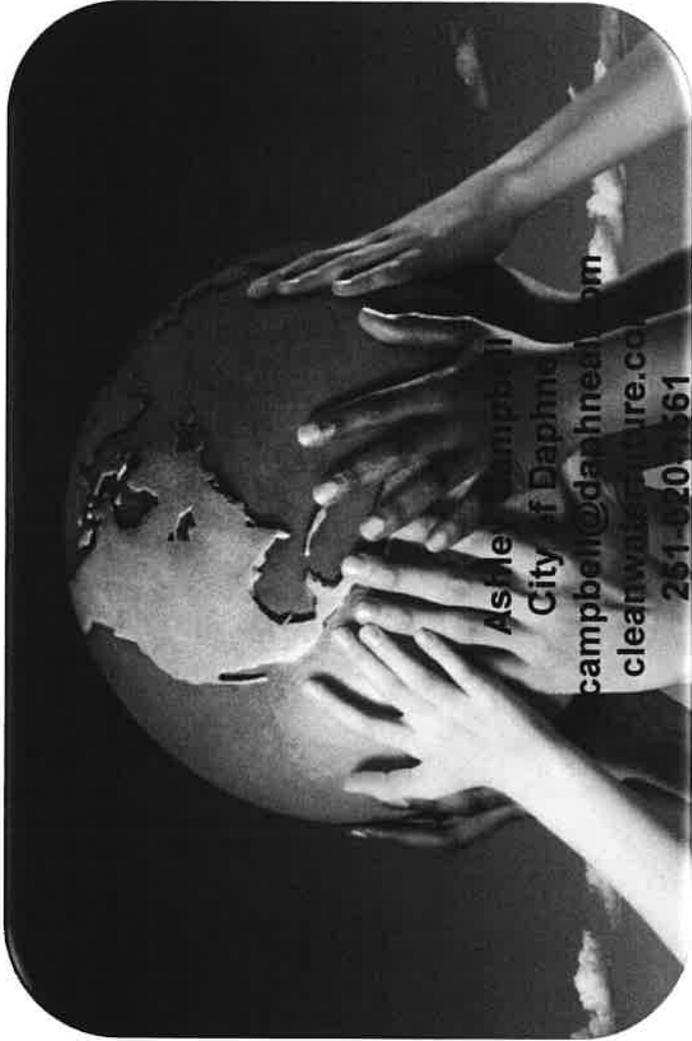


Protecting Alabama's Waters - Communities Partnering with the U.S. EPA's Nonpoint Source Management Program Download MP4 (Click link, then select download from the top menu)



**D'Olive Creek
Watershed
Management Plan
Update**

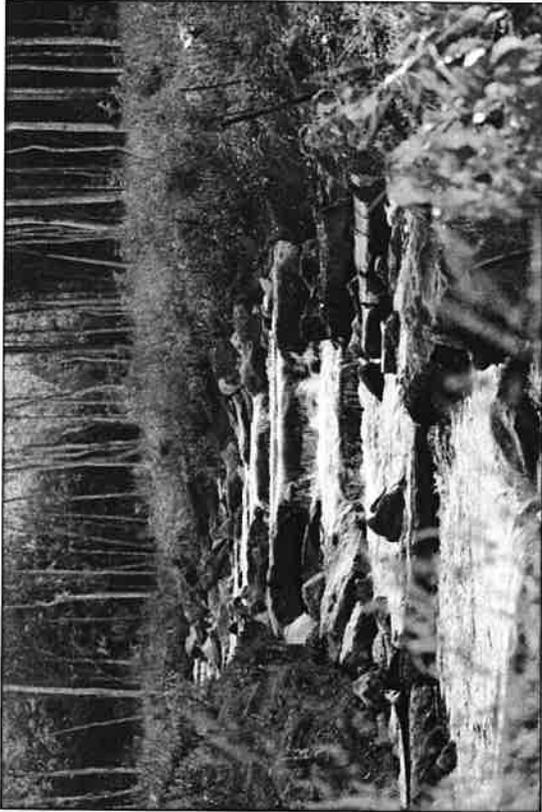
Clean Water is Everyone's Responsibility



Cleanwaterfuture.com

Step Up, Speak Up, Follow Up





SAVE THE DATE

December 3rd - 4th, 2019

D'OLIVE WATERSHED RESTORATION GULF COAST WATERSHED SUSTAINABILITY & MODELING SYSTEMS WORKSHOP – DAPHNE, ALABAMA

General Registration Day 1 & 2: \$200

General Registration Watershed Sustainability: \$100

General Registration Watershed Modeling Systems: \$100

CEUs approved from Auburn University

No Registration Fee for Local Government and Nonprofit Representatives. Registration still required.

Online Registration for Attendance & Sponsorship
<https://cses.auburn.edu/eve-brantley/coastal-restoration/>

MCM 1 Education Outreach
3.1.B-1.6 Watershed Signage

Watershed Signage	Qty
D'Olive Creek	10
Yancy Branch	8
Creek Name Signage	Qty
D'Olive Creek	6
Tiawasee Creek	6
Yancey Branch	6

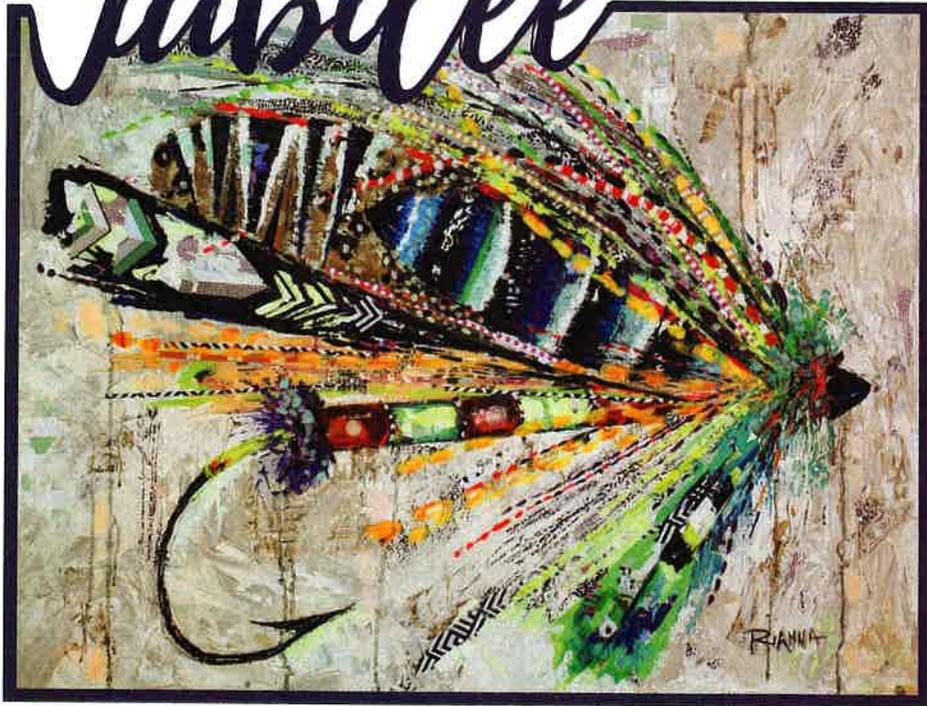
MCM 1 Educatio Outreach
3.1.B-1.7 Watershed Wagon Events

Event Name	Date	Location
Jubilee Festival	September 28 & 29, 2019	Down Town-Daphne

31ST ANNUAL

Jubilee

FESTIVAL OF ARTS



SEPTEMBER 28 & 29, 2019
OLDE TOWNE DAPHNE

Presented by the Eastern Shore Chamber of Commerce

FREE ADMISSION

www.thejubileefestival.com



EASTERN
SHORE
CHAMBER OF COMMERCE

Daphne
ALABAMA

200
ALABAMA
BICENTENNIAL

MCM 1 Education Outreach

3.1.B-1.1.8 Understanding Your Stormwater Management Program Plan Training

Council Member	District	Election Years	Date Watched Video
Tommy Conaway	1	2016-2020	12/12/2016
Pat Rudicell	2	2016-2020	12/12/2016
Joel Coleman	3	2016-2020	12/12/2016
Doug Goodlin	4	2016-2020	12/12/2016
Ron Scott	5	2016-2020	12/12/2016
Robin Lejuene	6	2016-2020	12/12/2016
Joe Davis, III	7	2016-2020	12/12/2016
Mayor	District	Election Years	Date Watched Video
Dane Haygood	All	2016-2020	12/12/2016

MCM 1 EO/PP

3.1.B-1.9 Clean Water Future SWAG Distribution

Clean Water Future Item	MCM	2019/2020Quantity Instock	Distrbution Location
Badge Holders	1	25	Staff
Coloring Books	1	500	Conferences, schools, Jubilee Festival and other festivals
Frisbees	1	0	Conferences, schools, Jubilee Festival and other festivals
Lanyards	1	50	Staff
Note Pads	1	250	Conferences, schools, Jubilee Festival and other festivals
Pencils	1	1000	Conferences, schools, Jubilee Festival and other festivals
Pens	1	400	Conferences, schools, Jubilee Festival and other festivals
Rain Guages	1	10	Rain Barrel Workshops
Shirts	1	35	Staff, AWW & EAC Volunteers and schools
Stickers-Decals	1	10	Conferences, schools, Jubilee Festival and other festivals
Tote Bags	1	600	Conferences, schools, Jubilee Festival and other festivals
Visors	1	0	Staff and AWW & EAC Volunteers
Water Bottles	1	400	Conferences, schools, Jubilee Festival and other festivals

