

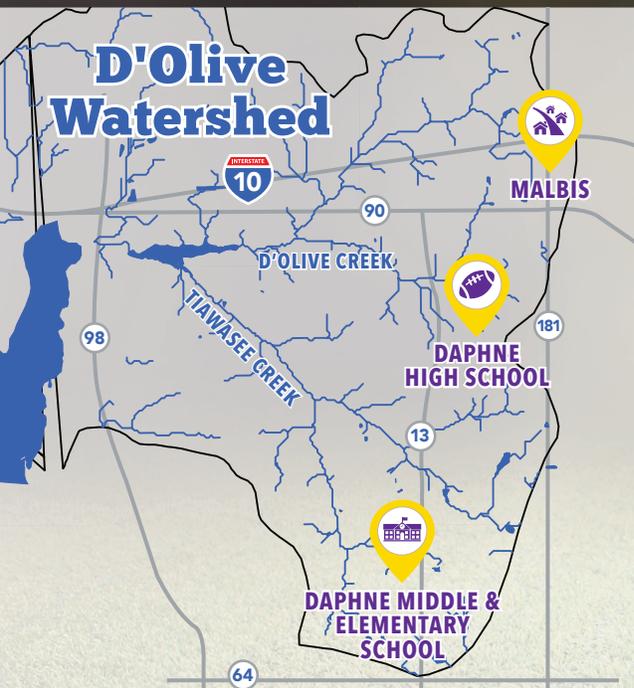
Be a Fan. Create a Clean Water Future.

Be a fan of clean water and help protect our watershed. Our watershed is being tackled by pollution that winds up in our streams, rivers and bays. Help be a part of the solution at home, work or play.

Playbook for Creating a Clean Water Future

- ✓ Don't litter and volunteer for community clean up initiatives
- ✓ Keep oil out of our creeks by repairing any vehicle leaks
- ✓ Prevent flooding and erosion due to clogged storm drains by bagging or composting leaf and grass clippings
- ✓ Wash your car on the grass to reduce the amount of soap and dirt running into our storm drains then to our creeks

It's a win-win for our watershed. GO TROJANS!



Did You Know?

- A watershed is the area of land that drains to a particular stream or waterbody.
- D'Olive Watershed is critical to the ecological function of both D'Olive Bay and Mobile Bay.
- Daphne High School is situated in the D'Olive Watershed.

For more information on how you can be part of the team to Create a Clean Water Future, visit www.cleanwaterfuture.com



Did you know that Daphne High School is in the D'Olive Watershed?

Let's protect OUR territory
Put it in the CAN Trojan fan
Only Losers LITTER.

GO TROJANS!

Let's win one
for the creek!

Don't get
blind-sided by
dirty water.

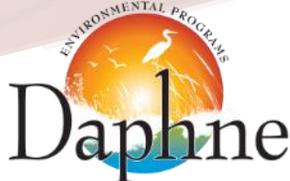
Hut Hut! Don't flick
the butt! Cigarette
butts are litter too.

Carry the ball!
Our goal is a
Clean Water
Future.

Littering is
like punting
on 1st down.

The City of Daphne and the
Mobile Bay National Estuary
Program are *Creating a Clean
Water Future One School at a
Time*. For more information
please visit
www.cleanwaterfuture.com

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ENVIRONMENTAL PROGRAMS

MONITORING IN D'OLIVE: MAKING SURE WE ARE GETTING IT RIGHT.

by Renee Collini, Mobile Bay National Estuary Program Science Coordinator

The D'Olive watershed has undergone extensive efforts to restore stream function that will not only reduce erosion at each site, but also improve downstream habitats and water quality. A large amount of resources have gone into the planning, and soon implementation of, these restoration efforts and it is critical to demonstrate improvements throughout the watershed as a result of these efforts.

Multiple, concurrent restoration activities can impact a wide variety of things in the watershed and to ensure the right things are being monitored a working group of experts in hydrology, marsh ecology, stream restoration, sedimentation, water quality, submerged aquatic vegetation, and biological indices from local, state, and federal agencies, academia, and the private sector was formed. The group developed the Mobile Bay Subwatershed Restoration Monitoring Framework (Framework) to standardize monitoring efforts in and around Mobile Bay and to comprehensively address four major focus areas that could be impacted: Sedimentation and Flow, Water Quality, Habitat, and Biology .

and ongoing monitoring efforts, a monitoring plan was developed that will quantify cumulative direct and indirect impacts and effects from the restorations.

Getting the Monitoring Done – A Group Effort

The recommendations for a comprehensive assessment of restoration impacts will require a wide array of expertise to successfully monitor the recommended parameters and time scales. The Geological Survey of Alabama (GSA) will monitor parameters to assess flow and sedimentation throughout the watershed. In addition to manual sampling, automatic samplers will be installed throughout the watershed that will provide great insight into variations in watershed response to rain events as stress from poorly functioning stream sections are reduced. These automated samplers will provide data on sediment and other water quality parameters. The additional water quality data provide not just tracking of changes due to restoration, but also provide data for the local cities' various permit-

Sedimentation and Flow

Often the primary focus of restoration, it is important to quantify changes in sedimentation and erosion and flow rates at strategic locations throughout the watershed.

Water Quality

Is impacted by restoration and is important to improvements in targeted habitats including submerged aquatic vegetation (SAV).

Habitat

Is crucial to ecological function and services. Quality and quantity of existing habitats and quantifying subsequent shifts is critical to tracking watershed scale impacts.

Biology

Any identified threatened or endangered species that live within the watershed need to be monitored and any shifts in population or critical habitat need to be tracked.

The working group then developed recommendations specific for D'Olive watershed based on the Framework. Leveraging efforts from local cities, academic institutions, federal partners,

and ongoing monitoring efforts, a monitoring plan was developed that will quantify cumulative direct and indirect impacts and effects from the restorations. There will also be water quality monitoring in D'Olive Bay. Experts in Sub Aquatic Vegetation



(SAV) from the Dauphin Island Sea Lab will be conducting monthly sampling to determine if the water quality is suitable for SAV.

Assessing the quality and quantity of habitats is such an important and diverse task it will be addressed by three different efforts: habitat mapping, stream and riparian buffer assessment, and wetland assessment. The Mobile Bay National Estuary Program (MBNEP) is going to be mapping the extent and type of habitats throughout all of Mobile and Baldwin Counties. These data will be compared to past mapping efforts and will be conducted again in the future allowing us to determine if habitat quantity has changed. Researchers from the University of West Florida and experts from Wetland Resources Environmental Consulting will be measuring many attributes of stream and wetland quality that indicate a healthy functioning riparian buffer zone, stream habitat, and wetland habitat. The metrics being sampled were developed so that multiple state and federal agencies can utilize these data including the U.S. Fish and Wildlife Service and the Alabama Department of Environmental Management.

Putting It All Together

The monitoring efforts from the various state, academic, and private partners will come together to demonstrate how D'Olive watershed will have changed over the coming years and to determine if the restorations have had a positive impact. High resolution sampling will demonstrate changes in watershed responsiveness and long-term, large scale sampling will provide insight into overall system improvements such as increased quality and quantity in habitats that provide crucial ecosystem services for the communities throughout D'Olive watershed. A science based organization, the MBNEP must show clear evidence of improvements to determine if the restorations have been successful. The good news? Early monitoring in Joe's Branch, a tributary of D'Olive watershed, is already showing indicators of reduced turbidity and sedimentation – a good sign that the hard work is paying off.



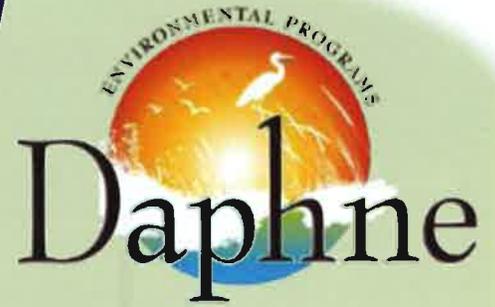
(Pictured: top to bottom) Installation of water quality monitors; Tiawassee Creek stream restoration project site tour.



If you have any questions or concerns, please contact us at 251-621-9000 or acampbell@daphneal.com.



When rain runs over roads, roofs, lawns and parking lots collecting oil, gasoline, chemicals and trash it's called stormwater runoff.....



What is Create a Clean Water Future ?

Create a Clean Water Future is a public service campaign to help resident 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 Alabama's citizens can take to help solve the problem. *For more information visit www.CleanWaterFuture.com*

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. Daphne 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 the Clean Water Future Campaign to a State Wide Level.***

