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We Need YOU *to Help Stem the Tide of Debris*

By Caitlin Wessel, Gulf of Mexico Regional Coordinator, NOAA Marine Debris Program and Angela Underwood, Education Coordinator, Weeks Bay National Estuarine Research Reserve

Alabama waterways, Mobile Bay, and the Gulf of Mexico are filled with items that do not belong there. Huge amounts of consumer plastics, metals, rubber, paper, textiles, derelict fishing gear, vessels, and other lost or discarded items enter the marine environment every day, making marine debris one of the most widespread pollution problems facing the world's oceans and waterways. *Continued on pg. 3*

Above: Local students picking up litter along the Mobile Bay Causeway at Alabama Coastal Cleanup 2019.

Currently Inside

Coastal Corner

By Will Underwood, Coastal Section Administrator, Alabama Department of Conservation and Natural Resources, State Lands Division

A New Administrator's Perspective During Unusual Times

Greetings from the office of the Alabama Coastal Area Management Program at the 5 Rivers Delta Resource Center. As I write this column, our staff is just beginning to come to terms with a "new normal" as we emerge from several months of social distancing. Looking out over the Blakeley River from my office window, I am reminded that the abundant natural resources we enjoy in coastal Alabama have served as a source of comfort, refuge, and escape for many of us in these uncertain times. The current situation has forced many of us to slow down and be more observant of the world around us. The sheer number of visitors that we have seen using the trails at 5 Rivers and the Weeks Bay Reserve highlight the importance of conserving green spaces and the necessity of promoting informed management and conservation of these resources as our economy recovers and the coastal population continues to grow.

As a point of personal privilege, I will take a few words here to introduce myself to our readers. I am a fifth-generation native of Baldwin County, residing on the family farm in the historic community of Sonora in the Weeks Bay Watershed. My agrarian upbringing instilled in me a fascination with nature and a respect and understanding for our role in sustainable management of natural resources. With the headwaters of Baker Branch as my classroom, I witnessed artesian springs drying up as the water table was lowered,

Will Underwood's great-great-grandfather James Peter Sherman at the Marlow Ferry Landing on Fish River circa 1911. Photo credit: William Morgan Sherman.

changes brought on by stressors that I did not fully understand until years later. But I also witnessed the resilience of nature and its ability to thrive despite our insults and intrusions.

I hold Bachelor and Master of Science degrees in Wildlife Biology from Auburn University and, after a brief stint teaching high school in Fairhope, spent seven years as the Stewardship Biologist at the Grand Bay National Estuarine Research Reserve in Mississippi. My time at Grand Bay was formative, giving me a chance to focus my energies on learning the natural and cultural history of a place and applying that knowledge to management. I came home to the Alabama Coastal Area Management Program in 2016, and for the last year have been experiencing "trial by fire," as I provide leadership for the Program and the Weeks Bay Reserve. My predecessor, Phillip Hinesley, held the position for over three decades and I am very grateful for his wise council and for the firm foundation that he laid for our programs.

While much of this issue of the *Alabama Current Connection* is devoted to issues of litter and marine debris, I'd like to think that the common thread binding these together is one of personal responsibility and the impact an individual can have on the collective of society. We celebrate these positive impacts by honoring the career of a public servant, L.G. Adams, whose conservation legacy will endure for generations to come. We also highlight the power of an elected official, Representative Margie Wilcox, to recognize a problem, gather stakeholder support, and foster the passage of meaningful legislation to address the problem. Grassroots efforts such as the Osprey Initiative and numerous local and regional cleanup events help to keep the issue of litter in the spotlight, but at the same time we recognize that we need to effect behavior change on an individual basis to stop litter at its source. I encourage you all to lead by example and find your niche in conserving and stewarding our abundant natural resources.

Class participants filter a water sample from Weeks Bay.

Volunteers filter sand samples as a part of microplastics monitoring at Weeks Bay NERR.

We Need YOU *To Help Stem the Tide of Debris* *Continued from page 1*

Marine debris is defined as any persistent, solid material manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment. It is a global and everyday problem. Marine debris is a threat to our environment, navigation safety, the economy, and potentially human safety and health. Most of all, marine debris is preventable.

Humans are the ultimate source of all marine debris; you'll never catch a fish tossing out a plastic bottle or a crab leaving behind a candy wrapper! In most places, plastic is the main type of debris you will see as you walk along the shoreline, and in the Gulf of Mexico it accounts for 93% of all debris. After a tropical storm, construction debris or boats may be a more common sight.

Single-use and disposable plastic items are deeply ingrained in our everyday lives and make up 29% of items found along Alabama's beaches. If you look around right now, you will see many objects that you are eventually going to throw away. As a society, we have moved increasingly towards on-the-go lifestyles, where we value the convenience of these disposable items. If we want to stop the flow of trash into our waterways, everyone will have to make some meaningful changes.

In an area where the economy is closely tied to fisheries and tourism, local citizens are increasingly conscious of both the effect debris has on their surrounding communities and environment and their ability to make a difference. Citizen participation comes in many forms, from joining in local cleanups throughout the year to training as citizen scientists.

Cleanup events are vital and necessary to protecting our coastal resources as long as the trash keeps flowing. However, these cleanup events often prove costly and don't target the source of the problem. Throughout the Gulf of Mexico, organizations are working to engage citizens in decreasing disposable items, especially plastics. A great example of training citizen scientists and encouraging the necessary behavior changes can be found at the Weeks Bay National Estuarine Research Reserve in Fairhope.

"This class really impacted the way I looked at plastic in general. I use only stainless-steel straws and paper straws, and I would honestly NEVER go back to plastic straws. I eliminated plastic bags from my life and house, and now I either carry my items or use a reusable bag. I also don't buy a lot of drinks in plastic bottles or items in plastic wrapping. I really enjoy this new lifestyle."

C. Pate, *Class participant*

The Weeks Bay NERR partners with NOAA's Marine Debris Program to hold Marine Debris and Microplastics 101 classes for teachers and local community members. During the class, participants conduct hands-on analysis of water samples to view microplastics. At the end, participants are asked to make a stewardship pledge and are surveyed six months later to assess changes made in reduction of plastics use and the "roadblocks" faced. The responses have been overwhelmingly positive:

"Participating is a way to give back to our community. Local waterways and, ultimately, the Gulf, are the lifeblood of our area. I believe it is important, as someone who considers herself a conservationist, to do my part to preserve our environment. By removing large litter items, which are an eyesore, we are also reducing the amount of microplastics entering our environment and, eventually, our food chain.

In short, why do I volunteer? It's fun, this is my home, and I like to keep it clean."

Nancy Tuttle
Cleanup Volunteer at Weeks Bay

Additionally, through the class, the Reserve was able to recruit citizens to participate in a citizen science microplastics monitoring training. This data helps the Reserve understand the concentrations of microplastics within areas of the watershed and contributes to the Mississippi State University database of monitoring sites across the Gulf.

How can you help? Continue to participate in local cleanups to get trash out of the environment. Attend a workshop and help educate others on the problems of marine debris. Volunteer to be a citizen scientist to monitor marine debris and microplastics. Lastly, and possibly the most challenging, choose one personal behavior to work on during the month: saying no to straws, using cloth shopping bags, or carrying your reusable water bottle. Start small and once you conquer one change, try another. This is a marathon, not a sprint. Don't feel like you have to make perfect choices all the time.

Estuary Reflections

Creating a Clean Water Future *Begins with a Single Step...*

Roberta Swann, Director, Mobile Bay National Estuary Program

This morning I went on my daily walk through the pine savanna surrounding our house on Mon Louis Island. It's a time I need and have come to cherish. It seems like whenever I make time for this morning ritual, my day tends to get started on the right foot.

Today I was reflecting on this unprecedented year, 2020. I was thinking about values the MBNEP determined to be most important to people living in coastal Alabama. One of them is resilience: "How we bounce back." It's a positive way to approach the skill of coping with problems life throws our way. There are different types of resilience. For instance, the word "journey" comes from French "*jour-ney*." It literally means a *day's* walk. I think approaching life that way, day by day, is one of the best ways to practice personal resilience.

This year has brought the need for community resilience into focus more than ever. Few could have imagined this year the emergence of COVID-19 and the impact it would have on our already significant problem of litter.

Industry publication, *Waste Dive,* has reported the COVID-19 crisis has brought significant disruption to trash collection and recycling across the country. Other industry reports show major increases in single use trash, due to the shift from in-restaurant dining to take out.

Primary and secondary schools, whose cafeteria buffet style dining is a staple of American education, are shifting to pre-packaged individual servings, all in an effort to ensure safety. An analysis by *Waste360.com,* another industry pub, shows household waste has increased by as much as 50 percent compared with pre-quarantine levels.

The pandemic has also given rise to the emergence of an entirely new type of problematic trash: face masks, rubber gloves, and other PPE. This new, global trash issue isn't just affecting the land. Like other improperly-disposed-of litter, the gloves and masks are already making it into our waterways. The French group, Opération Mer Propre, which, in English, means "Operation Clean Sea," has already documented the surge in PPE refuse in the Mediterranean Sea.

Clean Up Britain, an English anti-litter group, reports that the problem of trash in post-quarantine England is worse than ever before and that parks across the country are strewn with PPE and other COVID trash. All of this means, at a time when the world is focused on clean environments, we need to work harder than ever to keep our waters trash free.

Communities across the United States are already starting to do just that. In Southampton, New York, the gravity of the problem stimulated the City Council to act. They voted to establish a new "litter crew" to spend the next several months concentrating on picking up discarded gloves and masks.

Here in Mobile, the MBNEP and our Management Conference partners are leading the way in practicing community resilience by attacking the problem of trash on every level. From GPS satellite tracking devices, to Litter Gitter trash abatement strategies and technology, to coastal cleanups, to biodegradable take-out packaging in Prichard, in this issue of the *Alabama Current Connection*, you will learn about all the unique ways the MBNEP and our communities are working hard to Create a Clean Water Future for years and generations to come. I hope you enjoy the issue and are motivated to take personal action. I look forward to seeing you on *your* day's walk!

City of Mobile Efforts Towards a Litter-Free Mardi Gras

By David Ludwig, Energy and Environmental Specialist, City of Mobile

The scope of the City of Mobile's efforts to reduce the impacts of Mardi Gras celebrations on local waterways has been an evolving process. For decades, the City has conducted a large-scale cleanup at the conclusion of each parade day. The City's Mardi Gras cleanup approach is a team effort which includes almost every department.

In 2015, the City began focusing on reducing litter entering the waterways during Mardi Gras. One of the first prevention programs we expanded involved installation of more metal catch basin screens on stormwater inlets along Mardi Gras parade routes. These screens, fabricated and installed by the Public Works Department, allow for the flow of stormwater while filtering litter and trash generated during Mardi Gras parades. This allows for Public Works to pick up litter on the streets without allowing any debris to escape into the stormwater system. As of January 2020, these screens now total 150 and are assessed annually for repairs prior to the start of Mardi Gras.

City trash cans for Mardi Gras.

In April 2018, the Litter & Recycling Department was established in the Public Works Department. This Department was specifically intended to aggressively remove litter from City rights-of-way. This group has been included since 2019 Mardi Gras, specifically to address litter. They remove litter at the beginning of each parade day, after each parade, and at the end of every parade day, with a total of 5,698 lbs. of litter collected over the past two Mardi Gras seasons.

City of Mobile Litter Patrol truck.

Additionally, in 2020, this group painted and distributed 125 trash barrels throughout and along parade routes, resulting in 69,360 lbs. of trash collected from the barrels. Public Works also placed "Please Do Not Litter" signs along main thoroughfares heading into downtown Mobile.

The City has begun focusing on establishing partnerships with private and public entities. In 2017, Mardi Gras Park was finalized and opened to the public. The Park, itself a beautiful landmark, has marine debris interceptor devices (MDIs) installed inside the seven stormwater inlets that surround it. Through a partnership with Alabama Pipe and Supply (APS), these seven inlets each have MDIs that function as litter collection devices. The MDIs also allows for the flow of stormwater, but not litter. Public Works routinely cleans each device, and during Mardi Gras it was noted that the MDIs easily captured confetti and other smaller throws.

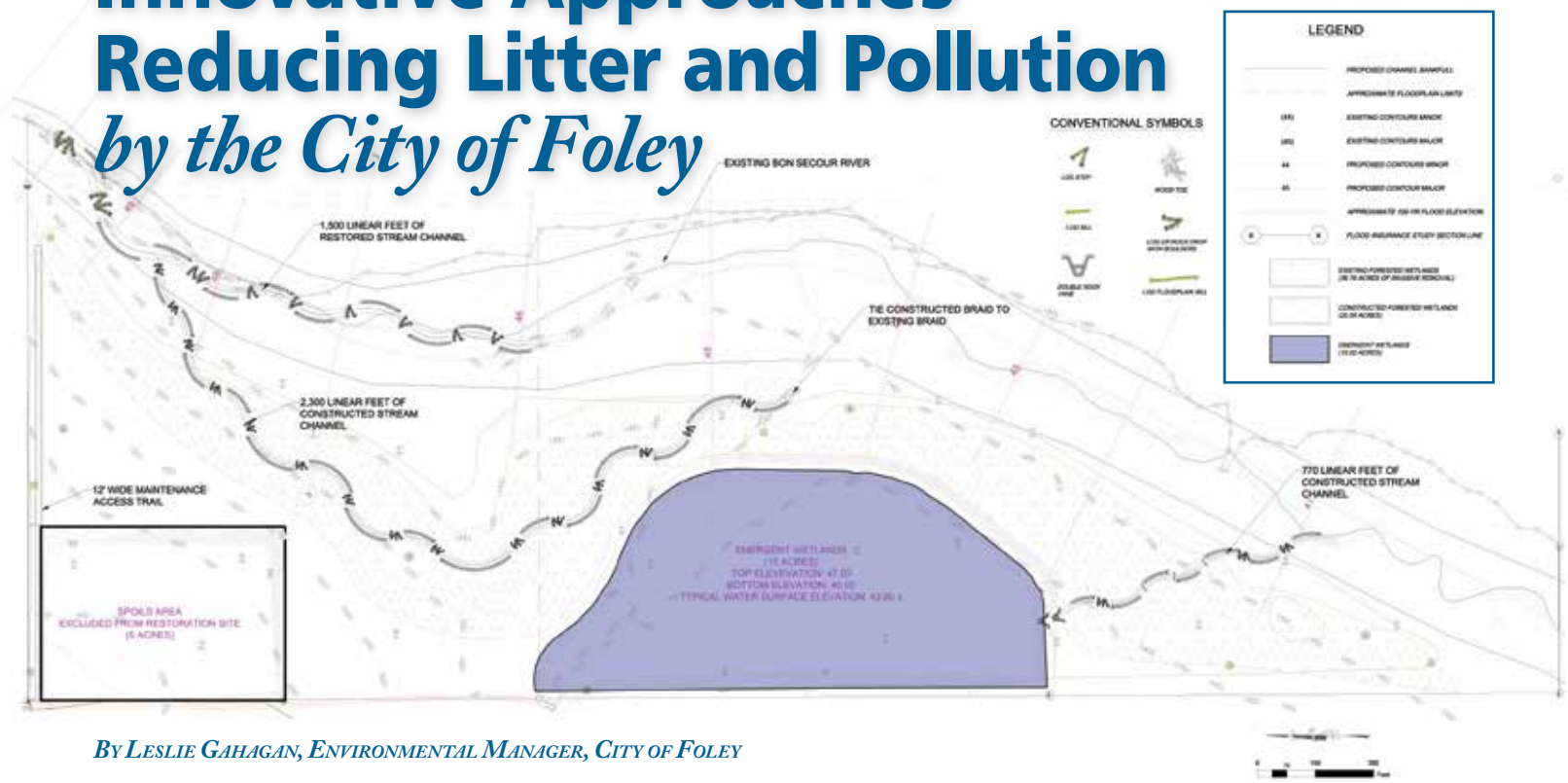
In 2017, the City partnered with Mobile Baykeeper (MBK) on its new initiative of a "Litter-Free Mardi Gras." MBK was awarded funding from a NOAA Marine Debris Removal Grant. MBK and APS generously provided funding for additional MDI devices, and the devices were installed at pre-selected locations along Mardi Gras parade routes.

In 2019, the City contracted Osprey Initiative for professional services related to waterway litter removal in the Three Mile Creek (TMC) and Dog River watersheds. The City intentionally started this contract during Mardi Gras so Osprey could be an additional resource in removing any litter that may have entered the waterways. They removed 426 lbs. of litter from the TMC Watershed during two seasons of Mardi Gras. Osprey's work is funded by the City's stormwater fee.

City of Mobile anti-litter signs.

This article only briefly touches on the assortment of activities and initiatives that the City of Mobile has dedicated towards addressing litter during Mardi Gras. The City utilizes an "all-in" mentality by leveraging best practices, partnerships, and technology for protecting local waterways while continuing to "Laissez les bons temps rouler."

Innovative Approaches Reducing Litter and Pollution *by the City of Foley*



By Leslie Gahagan, Environmental Manager, City of Foley

With urbanization on the rise, the City of Foley is moving forward with innovative ways to reduce stormwater pollutants, including litter in our waterways. Good housekeeping has been a focus for the City for years, but with exponential growth comes impacts to our natural resources. The Foley Public Works Department created a program many years ago to patrol for litter along the rights-of-way prior to mowing operations. Not only does this reduce litter, but it also prevents mowers from chopping litter into small pieces. Rights-of-way include the many ditches conveying stormwater to streams, so this practice ultimately reduces the litter in our waterways.

In 2018, Foley teamed with Mobile Bay National Estuary Program and secured a grant to install a litter trap in the headwaters of the Bon Secour River. Osprey Initiatives installed the "Litter Gitter" on the downstream side of a concrete-lined channel draining one of the most urbanized areas of Foley. Since that time, the trap has removed 385 lbs. of litter, with 75 lbs. recycled. Foley is committed to maintaining the contract with Osprey Initiatives to continue this effort.

The headwaters of the Bon Secour River are located in the urbanized area of Foley and capture large volumes of stormwater runoff. The Bon Secour River Watershed Management Plan identified stormwater runoff as a major contributor to degradation of the River. The Plan, which was developed by the MBNEP, recommended a headwaters restoration project as a primary management measure to help address this issue.

A project was developed to divert stormwater flows from Bon Secour River headwaters to a constructed wetland system to filter pollutants, including litter, sediment, pathogens, nutrients, and metals. The City secured grant funding from the National Fish and Wildlife Foundation Gulf Environmental Benefit Fund to implement Phase I of the project. Phase I includes acquiring 94 acres of Bon Secour River headwaters, developing engineering design and specifications for the project, and securing necessary permits. This phase should be completed by the end of 2020. Andrew James, PE, of Volkert, Inc., developed this concept. Mr. James stated "restoring the headwaters of the Bon Secour River achieves multiple water quality goals established in the recently completed watershed management plan. The constructed and restored wetlands within the project will reduce nutrient loading into the lower River and Bon Secour Bay, while the detention portion of the project will limit peak stormwater flows from the headwaters, helping to reduce downstream sedimentation."

Project construction will occur in Phase II, which is anticipated for funding in 2021. In order to verify the outcomes of the constructed wetland system, the City of Foley began monitoring water quality and nutrient levels in 2019 to develop "a baseline." Monitoring will continue throughout project construction and for several years after completion.

As Foley continues to grow, the City is implementing many regulatory requirements, such as low-impact development requirements on new construction and re-developments. All of these projects work together to improve water quality. Foley will continue pressing forward with ways to "Create a Clean Water Future" for generations to come.

Volunteers and the 634 lbs. of litter collected during the June 12 Prichard Cleanup.

Prichard Toulmins Spring Branch Cleanup 2020

Madison Blanchard, Project Coordinator, Mobile Bay National Estuary Program

On June 12, 2020, the Mobile Bay National Estuary Program, along with partners Osprey Initiative and Student Conservation Association's GulfCorps, conducted a litter cleanup in Prichard, Alabama. The event focused on removing litter from a portion of Toulmins Spring Branch (TSB), an urban creek running through the heart of Prichard, and along its banks. While the professional, boot-and-wader-clad Osprey crew worked within the creek, others removed trash and litter from along Hinson Avenue and the drainage ditch on the east side of the street draining into TSB.

Eighteen participants, including Prichard Councilwoman Ossia Edwards, worked together, removing debris from the steep creek banks and pulling mud-filled tires from the creek bottom. As trash was collected, items were separated by material type. Plastics, glass, and aluminum were recycled, and Styrofoam and other non-recyclable materials were sent to a landfill. Tires were recycled through the City of Prichard's Scrap Tire Program for reuse as tire-derived fuel. Among the strangest items collected were a household vacuum cleaner and a huge table lamp!

At the end of the event, a total of 17 tires and 634 lbs. (or 339 cubic ft.) of man-made trash had been removed from the roadsides along a quarter-mile stretch of Hinson Avenue between St. Stephens and Hark Ephriam Jr. Street and from banks and waters of 272 linear feet of stream. Additionally, data collection was used to characterize the collected material, adding value to this unique cleanup effort. Osprey applied the EPA's Escaped Trash Assessment Protocol (ETAP) to collected material for the purpose of developing litter profiles at cleanup sites and to help identify sources of trash, whether from a fast-food restaurant, gas station, or convenience store.

Toulmins Spring Branch lies within the greater Three Mile Creek Watershed and is located in its northeastern portion. Its headwaters begin near the Highway 45/I-65 interchange and its mouth, downstream, drains into Three Mile Creek near Conception Street Road. Its surrounding landscape is almost entirely urban and impacted by illegal dumping, leaving the waterway severely impacted by stormwater runoff-conveyed trash and litter. The community is low-lying and flood prone, with flooding worsened by waterborne debris. Originally scheduled for March 2020, the Prichard Cleanup was rescheduled due to the health risks from COVID-19 and did not include volunteers from the community, as originally planned.

Pre-event safety meeting led by Don Bates at the Prichard Cleanup.

The Mobile Bay National Estuary Program is committed to implementing comprehensive litter abatement strategies recommended in the Three Mile Creek Watershed Management Plan to improve the quality of receiving waters and the lives of those who live there. "Thank you" to The City of Prichard, Prichard Public Works, Osprey Initiative, GulfCorps, and Prichard City Council for supporting this effort!

Using the EPA's Escaped Trash Assessment Protocol (ETAP) in *MBNEP's Litter Abatement Strategy*

By Jason Kudulis, Restoration Project Manager, Mobile Bay National Estuary Program

Osprey's Jack Bates and Ellie Mallon work up litter data using ETAP.

As the Mobile Bay National Estuary Program continues to develop watershed management plans in coastal Alabama, in nearly all completed plans, each crafted with community input, litter emerged as a priority issue. Litter is also a focal point of the Environmental Protection Agency (EPA). Few would argue against the need to limit and reduce improperly disposed of trash, an unsightly problem that compromises aquatic habitats. The EPA's Trash-Free Waters program (TFW) develops tools and strategies to reduce sources of land-based litter (primarily single-use disposables) ending up in our waterways.

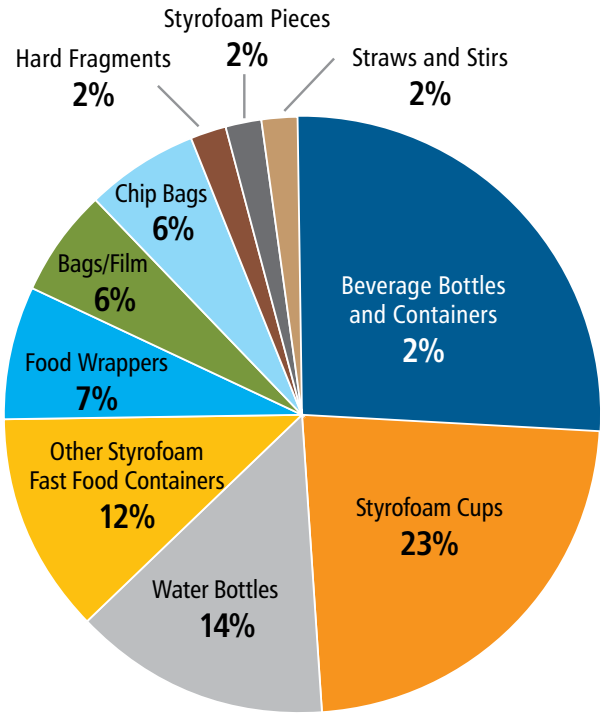
Most available litter data comes from community cleanups, like the Alabama Coastal Cleanup. However, data collected at similar events across the country are not always measured consistently or comparably (like comparing apples to oranges). Even with these well-intended efforts to fight the "war on litter," large data gaps prevent meaningful evaluation of litter source reduction efforts. To create more uniform data collection methods (apples to apples), TFW developed the Escaped Trash Assessment Protocol (ETAP). ETAP is intended to be used by anyone, particularly community volunteer groups, to generate standardized, statistically significant data to track, characterize, and quantify trash at a site or watershed, or within a watershed or community.

Continued on page 9

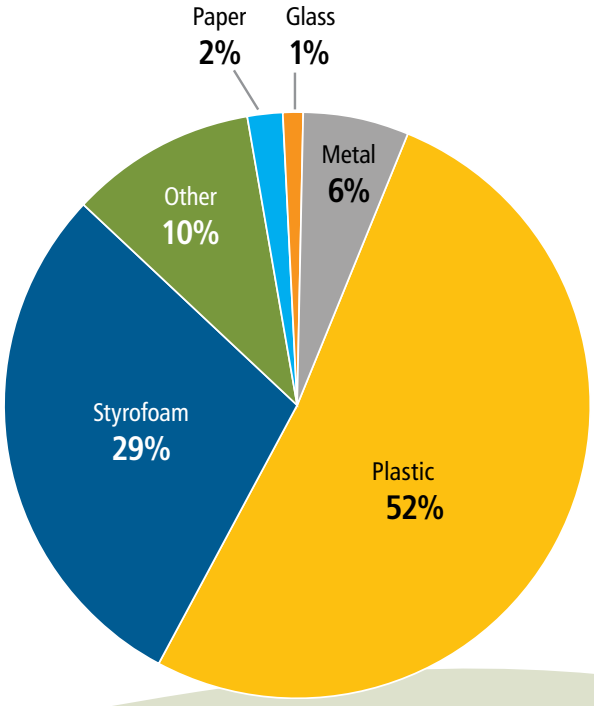
In 2017, after receiving an award from the EPA's Gulf of Mexico Program (GMP) to implement a comprehensive strategy to create trash-free waters in the Three Mile Creek (TMC) Watershed, TFW asked the MBNEP to incorporate ETAP into the project. Our team was initially hesitant to pilot a draft protocol, adding another layer to an already complex litter abatement strategy. Nevertheless, MBNEP project partner Osprey Initiative readily adopted ETAP, which, it found, did not slow or complicate its cleanup efforts. Almost immediately after ETAP data collection began, the project team realized the added value ETAP provided.

Prior to ETAP, MBNEP had no experience discerning litter types and sources and was missing a data pool necessary to promote change. Now we have a TMC dataset from March 2018 to present. MBNEP continues to fund Osprey litter removal and data collection in TMC, despite exhaustion of GMP funds, in anticipation of the City of Mobile funding the TMC project for two more years. Overall, the TMC dataset represents one of the longest continuous collections of ETAP data in the country and has garnered attention of EPA and other nationwide litter programs.

ETAP crystalizes understanding of trash and marine debris by generating both site-specific and watershed-level data to guide effective deployment of limited litter removal resources and target source reduction campaigns. For example, initial site-specific evaluations can be used to determine baseline characteristics at a given site (i.e., identifying the types of trash collected, whether it is recent or legacy trash, and potential retail sources of the trash). Over time, data trends can be used to build "litter profiles," which include increases or decreases in the amount of litter, types and volume of material, and patterns or reoccurrence periods. Data combined from several individual sites reveal more information that could be used to better manage limited local and state resources and better educate businesses and the community. Additionally, watershed-wide data could assist decision makers and regulatory agencies instituting tougher penalties or policy change. The MBNEP and the Tampa Bay Estuary Program were recently awarded additional GMP funds to expand ETAP capacity of both programs and to encourage supply chain reductions in single-use disposable products higher in the supply chain.



TMC ETAP Top 10 Plastic/Styrofoam Items



TMC ETAP Major Category Breakdown

Ditch the Disposables at Big White Wings

By Madison Blanchard, Project Coordinator, Mobile Bay National Estuary Program

Maurice White's Big White Wings in Prichard.

Litter in our waterways is increasing, driven, in part, by an ever-greater reliance on single-use packaging.

Of the 9,732 lbs. of waterborne litter removed by Osprey Initiative as part of the Mobile Bay National Estuary Program's Three Mile Creek Litter Abatement Program since March 2018, Styrofoam accounted for nearly 30% of this material. MBNEP recognized the need for an alternative packaging campaign targeting local businesses using Styrofoam food packaging.

The MBNEP partnered with Big White Wings, a locally owned restaurant in the heart of Prichard, Alabama, for a Ditch the Disposables campaign. The restaurant was chosen based on their popularity within the community and their interest in piloting the program. Big White Wings' choice of Styrofoam food-packaging was based on both price and performance.

The primary goal of the Ditch the Disposables campaign is to change behaviors and practices centered on Styrofoam packaging to reduce the waste stream at its source. Objectives include: (1) determining customer preferences related to elimination of Styrofoam food packaging, (2) raising awareness about the negative impacts of single-use items, (3) educating community members and business owners about alternative, more-sustainable products and practices, and (4) providing local businesses with necessary tools and incentives to switch to more sustainable packing alternatives.

The MBNEP supplied Big White Wings with one week's worth of recyclable paper food packaging products to be used during the campaign and customer surveys to elicit feedback. Beginning December 9, 2020, customers were encouraged to take a survey after they had purchased and eaten their meal. To encourage participation, restaurant owner, Maurice White, visited tables and expressed the importance of participating. The campaign culminated on December 14th with the giveaway of a 50-inch flatscreen television to one lucky survey participant. A surprising 279 surveys were completed.

The most significant finding is that 83% of customers who participated are willing to pay more for sustainable packaging, ranging from five to 35 cents. MBNEP received statements from the restaurant owner, restaurant staff, and customers expressing approval of the performance and the function of the paper food packaging products. Mr. White has expressed interest in switching to sustainable food packaging after seeing that his customers value it. Next steps include analyzing cost differences between Styrofoam products currently being used at Big White Wings and paper food packaging, then determining the amount of surcharge to add to each meal to offset the cost of the paper products. A second campaign is currently in development.

Ditch the Disposables Campaign @ Big White Wings Survey Results: Percentage N=279

Did you notice your packaging today was not Styrofoam?	Are you aware that litter in streets and parking lots makes its way to waterways?	Do you prefer paper or Styrofoam?	Would you be willing to pay more for sustainable packing? How much?
Yes 72%	Yes 92%	Paper 40%	5 cents 24%
No 28%	No 8%	Styrofoam 27%	10 cents 25%
		No Preference 33%	25 cents 20%
			35 cents 14%
			I would not be willing to pay more. 17%

Tracking the Trash –
Determining Transport Routes Within the Dog River Watershed

By Eric Saucier, Assistant Project Manager, Dog River Clearwater Revival

For 25 years, the Dog River Clearwater Revival (DRCR) has worked to improve the water quality of our streams, creeks, rivers, and wetlands; to maintain our quality of life; and to provide the best possible environment for fish and wildlife, public recreation, and commerce in south Alabama's mostly urban Dog River Watershed. In recent years, focus has increased on litter removal and reduction at its source.

In 2018, DRCR partnered with the Mobile Bay National Estuary Program, Mobile Baykeeper, Osprey Initiative, and Partners for Environmental Progress and then secured a 2019 EPA/Gulf of Mexico Program grant to establish a Comprehensive Trash Abatement Program for the Dog River Watershed. A key aspect of the Program is analyzing sources and origins of litter, trash transport routes and fates, and enforcement effectiveness in the Upper Dog River Watershed.

To achieve reduction of litter in the watershed, we must understand sources, the mannerisms, and routes of floating litter. The DRCR is utilizing hydrologic modeling data to determine the best testing locations for various GPS tracking system locations. To date, these tests are providing an accurate illustration of how trash makes it from a hardened surface, down a municipal storm drain, into the nearest waterbody, and eventually to Dog River.

The first tests using a Spot Trace satellite tracking device mounted inside a Nalgene bottle began in January. Mobile's unusually dry spring gave plenty of time to examine data and determine needs. Size, shape and weight of the housing used to keep the device dry affects travel, tree canopy coverage affects signal, and battery life varies.

"Curry's Orb" was named for local Alabama hydrologic modeler John Curry. It is a custom-built GPS device mounted within a three-dimensional, printed plastic sphere. It was tracked on its maiden voyage in Halls Mill Creek in May.

Osprey Initiative's "Litter for Science" effort involved painting and then tossing 15 plastic bottles upstream into Dog River to provide additional information and observation analyses using manual and "Litter Gitter" collections.

As we analyze data, we are developing improved tracking methods and tweaking tracked devices. In so doing, we are learning a great deal about how trash moves through the creeks and streams of the 95-square mile Dog River Watershed.

Spot Trace satellite tracking device in a Nalgene bottle.

Curry's Orb

From Maple Street to Beyond: *Osprey Initiative is Taking on Litter!*

By Don Bates, President, Osprey Initiative, LLC

Osprey crew performing a first pass cleanup.

In November 2016, a group of volunteers led by the Mobile Bay National Estuary Program (MBNEP) performed an "Amphibious Assault" on litter in the Maple Street Tributary to One Mile Creek in Mobile, AL. The day was a success, and more than 100 bags of stormwater-conveyed litter and debris were removed from the waterway. As the group was eating lunch, the familiar lament was made concerning wasted efforts: "Once it rains, the litter will return!" That was the moment the concept for a small, tactical litter trap that could be easily and economically maintained was created, and the "Litter Gitter" was born.

Upon the success of the Litter Gitter, Osprey Initiative, LLC was created with the initial purpose of reducing litter in our waterways. We feel, as we continue to become more urbanized, we are losing our understanding of our symbiotic relationship with nature. Trips to the outdoors have to be scheduled and planned, and we work all year to take that one trip to the beach or the mountains. Unknown to many, there are wild beautiful urban streams practically in our own back yards. These streams lay in the shadows of our towns and cities and are a critical part of the ecosystem of Mobile Bay and south Alabama. The issue: these streams are also the conduits for stormwater runoff and any litter it carries. One of our guiding purposes is to make sure these streams are truly considered assets to our communities.

Don Bates (right) with his Osprey Initiative crew on One Mile Creek.

Another issue we are seeing is a somewhat chaotic approach to litter abatement. Limited vision leads to sporadic removal efforts with disjointed communication/awareness campaigns. Partners and volunteers lose interest when they feel their efforts are in vain. We are glad that is not the issue in south Alabama. The task is large, but the foundation for long-term improvement is solid here. We could not have chosen a better area to start our business.

The vision and focus of the MBNEP have created real concern for the health of Mobile Bay. Their support led to the initial U.S. Environmental Protection Agency (EPA) Gulf of Mexico Program grant for the pilot program, leading to the deployment of 10 Litter Gitters along with "first pass tactical cleanups" from Langan Park to Conception Street Road in the Three Mile Creek Watershed. The commitment from the City of Mobile and their public works, engineering, and stormwater groups has been tremendous. Each week, Osprey Initiative crews work two days in the Dog River Watershed and one day in Three Mile Creek Watershed under contract with the City. With EPA funding, we continue to maintain six Litter Gitters in Three Mile Creek for the City of Mobile. We are in our third year overseeing a Litter Gitter in Foley and have installed a new unit last fall directly upstream of Daphne's Alligator Alley with funding from MBNEP/EPA and Daphne Utilities.

Through April 2020, the Osprey Initiative Litter Gitter removed more than 43,000 lbs. of litter.

Partnerships with non-governmental organizations also underlie the positive activities occurring in this region. We are fortunate to have multiple groups whose priority is to protect and improve the water quality of Mobile Bay and our coastal waters. Partners for Environmental Progress worked with the MBNEP to fund the pilot program in Mobile. Through Dog River Clearwater Revival, we have six Litter Gitters deployed in the Dog River Watershed. We assisted Mobile Baykeeper (MBK) with their "Litter-Free Mardi Gras" campaign that removed thousands of pounds of legacy litter from One Mile Creek. The shared approach in support of a global vision has allowed for separate initiatives to work in concert to achieve greater results.

From early experiences in south Alabama, Osprey Initiative has expanded to eleven watersheds in five states with potential opportunities in five more states. Through the end of April 2020, our teams have removed 43,013 lbs. (or 22,988 cubic ft.) of litter from our total service area and 30,891 lbs. (or 17,898 cubic ft.) of litter from lower Alabama waters. While we primarily concentrate on the removal of waterborne litter; we also remove marine debris and other materials from area waters. We do not typically include those items in litter totals to avoid misrepresenting data.

We believe that litter traps and tactical cleanups are key to litter abatement. However, the ultimate goal is to prevent littering. With this in mind, data is collected to inform decisions and actions based on data and science. We use a modified EPA Escaped Trash Assessment Protocol, or ETAP, to evaluate our data. Initial ETAP analyses were tested under the MBNEP's supervision by Osprey Initiative and MBK, and from that initial test, we developed the model we have used to analyze data hundreds of times over the last few years. This data provides accurate litter profiles leading to impactful abatement actions. With data collection and the sorting/cleaning of recyclables, Osprey is able to return almost one third of collected materials into the recycling stream, reducing materials headed to the landfill.

Several new initiatives and ideas will be brought to the market in the next few months. We are thankful to be working in south Alabama with so many great local governments and partners, and we look forward to continuing to create new ideas to improve the quality of our local waters. Visit www.osprey.world, or check us out on Facebook or Instagram at Osprey Initiative. See you on the water!

Legislative Perspectives
from Lower Alabama's Champion Representative

By Margie Wilcox, Alabama House of Representatives, District 104

Ever since the late night commercial with the Native American on a horse crying about litter, I have had a passion against litter. In particular, I loathe when people throw things to nature instead of a trash can. I have picked up other people's litter washed up in my yard on Dog River, on the beaches of Dauphin Island, as well as many other locations around the county, as I enjoy exploring the great outdoors.

Shortly after the 2018 Alabama legislative session, I attended community meetings in Mobile focused on litter, and, specifically, reducing trash – illegally dumped, irresponsibly discarded, and carried by stormwater runoff into our streams, rivers, and Gulf. I researched Alabama litter laws and found them to be on the "low side" of all other states. I engaged our attorneys at the Alabama Legislative Services Agency, who further researched the issue and helped put together a bill. With the help of the MBNEP's Government Networks Committee, we fine-tuned several parts. The most popular part of the bill is the mandatory community service. We all want to see the convicted litter offenders out there picking up litter, not just paying a fine.

The Bill, which I sponsored, was presented in the 2019 Regular Session of the Alabama House of Representatives and is summarized below:

> ENROLLED, An Act, Relating to littering; to amend Sections 13A-7-29, 23-5-6, 32-5-76, 32-5A-60, and 33-6-10, Code of Alabama 1975, to provide additional penalties for criminal littering to include enhanced penalties for littering of cigarettes, cigars, containers of urine, restaurant food containers, and other specified waste items; to include within the enhanced penalties, increased fines, and mandatory community service requirements when littering is committed from a motor vehicle; and in connection therewith would have as its purpose or effect the requirement of a new or increased expenditure of local funds within the meaning of Amendment 621 of the Constitution of Alabama of 1901, now appearing as Section 15111.05 of the Official Recompilation of the Constitution of Alabama of 1901, as amended.

Before HB 500 could be introduced, another bill demanded my attention. Representative Nathaniel Ledbetter and Senator Steve Livingston introduced HB 346 and SB 244, respectively, to prohibit counties or municipalities from enacting any ban or tax on bags or similar single-use items. The bills were strongly supported by the business community and opposed by environmental

organizations and the Alabama League of Municipalities. At a well-attended Republican Caucus meeting, I stood up and announced to Representative Ledbetter that he'd better "gird his loins," because he was in for a fight. For the next couple of weeks we had spirited and friendly debate, and, happily, the "plastic bag ban" bill died and has not been reintroduced.

Remaining time in the Session was short. I had to ask for placement on the 10-minute calendar, which provided no time to discuss HB 500 in any detail, so I resorted to emailing everyone in the House of Representatives before the Bill was introduced. With one amendment, removing the assessment of driver's license points for littering infractions, the Bill reached a tipping point. On the last day of the session, HB 500 passed the house 95-5 and the Senate. It was delivered to Governor Ivey on May 31, 2019.

L.G. Adams, Long-time Weeks Bay National Estuarine Research Reserve Manager Retires

By Will Underwood, Coastal Section Administrator, Alabama Department of Conservation and Natural Resources, State Lands Division

It is with sincere appreciation and admiration for a job well done that the Alabama Department of Conservation and Natural Resources, State Lands Division, bids farewell to Weeks Bay Reserve Manager L.G. Adams, who retired on May 31st after 34 years of State service. L.G., a Mobile native, consummate gentleman, and avid outdoorsman, found his niche in the world of natural resource management when he joined the staff at the Reserve in 1992. After serving for three years as the Education Coordinator, he stepped into the position of Reserve Manager, a role that has allowed him to have a lasting impact on the conservation of Baldwin County's natural resources.

L.G. Adams

During the intervening 25 years, L.G. has fostered the Reserve through the shifting winds of political and economic change, all the while maintaining forward momentum in advancing the place-based conservation, research, and education missions of the Reserve.

During L.G.'s tenure, he successfully leveraged State and federal funds to establish and realize a vision for facilities and programs to provide public access and interpretation to over 10,000 visitors per year, provide meeting space for education and training in the Tonsmeire Resource Center on the banks of Fish River, and provide laboratory space and living quarters for the many visiting researchers, graduate students, and scientists who use the Reserve as a living laboratory. L.G. has also been a steady voice of reason in helping guide the growth and evolution of NOAA's National Estuarine Research Reserve System through participation in national workgroups and the National Estuarine Research Reserve Association.

When asked about some of his career highlights, L.G. points to the many successful partnerships through the years that have resulted in the protection of thousands of acres of vulnerable coastal habitats within the Weeks Bay Watershed and beyond. These lands serve many critical functions as nursery grounds for fish and shellfish, refuge for migratory birds, and as buffers against the fury of hurricanes and storm surge. A quick glance at a map of conservation lands in Baldwin County confirms the success of these partnerships and L.G.'s role in protecting the very fabric of our natural communities. The results of his efforts will continue to pay dividends for generations as our coast continues to accommodate increasing population growth and development. Perhaps most importantly, these conservation lands hold an intangible aesthetic value that provide a window into the natural world that beckoned generations past to settle here. Join us as we thank and congratulate L.G. Adams on a career well spent in conserving the natural resources of the Alabama Gulf Coast.

Alabama current connection

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

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

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

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EMBRACE THE GULF 2020

SAVE the DATE
Saturday
9.19.2020
8am – 12pm

Please visit alabamacoastalcleanup.com for the latest updates or call 251-928-9792.