

# Fighting Litter with a Little Help from our Non-Profit and Private Friends

Rosemary Ginn, PE - City of Mobile

Don Bates, PG – Osprey Initiative

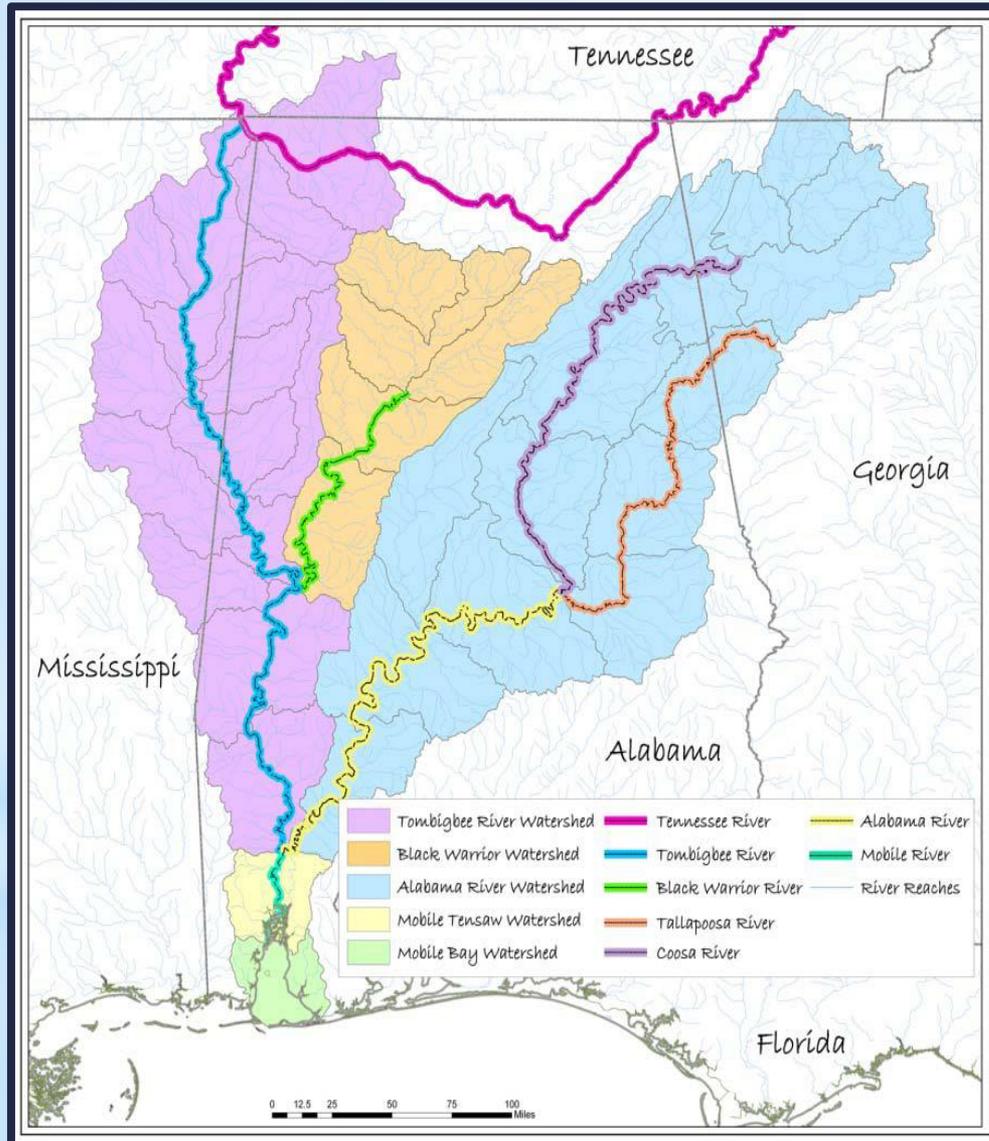
April 24, 2020



**OSPREY**  
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# The Mobile Bay Watershed



65%

land area of  
Alabama

4th

largest drainage  
basin by flow  
volume in North  
America

1st

in biodiversity

# Mobile is America's Rainiest City



City Ranking 2019	Annual Rainfall (in)	Annual Rain Days
1. Mobile	69	59 (2019)
2. Pensacola	65	56 (2019)
3. New Orleans	64	59 (2019)
41. Seattle	33	149 (avg.)
42. Portland	26	154 (avg.)

**Mobile is a City waging a war on Litter.  
We Needed to Make a Change...  
We are getting there!**



# Our 2016 Game Plan *Updated*

- ❖ Developed and Revised Ordinances
- ❖ City Activities Focused on Preventing Litter from Reaching the Waterways
- ❖ Activities for Cleaning-up the Litter that does Reach the Waterways
- ❖ 2017-Present → Partnerships for multiple grant opportunities
- ❖ Storm Water Fee Implemented in FY19
- ❖ 2019-20 → Using Private Resources

# Ordinances

**Maintain Mobile**  
Clean Choices. Clean Water



# Supporting Ordinances

Chapter 17 – Storm Water Management & Flood Control

Chapter 25 – Garbage, Litter & Lot Maintenance

Chapter 54, Article V – Signs in Public Rights-Of-Way

Chapter 54, Article VI – Handbills



[https://library.municode.com/al/mobile/codes/code\\_of\\_ordinances](https://library.municode.com/al/mobile/codes/code_of_ordinances)

# Ordinance Updates

## Chapter 17 – Storm Water Management & Flood Control

- **Given Restore funding to update Storm Water Design Manual**

## Chapter 25 – Garbage, Litter & Lot Maintenance

- Prohibits
  - ❖ **Sweeping or blowing litter, yard clippings, trash or leaves into the streets & drains**
    - hardest to enforce**
    - Many, many calls/SROs received**

## Chapter 54, Article VI – Handbills

- Do Not Deliver Requests
  - Success story**
  - Visible reduction in ads in right of way**

# City Activities for Controlling Litter

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# City Activities

## Storm Water Management Program Plan (SWMP)

- Litter Control & Prevention Measures
  - Litter Patrol and Pickup
  - Catch Basin Cleaning & Street Sweeping
  - Litter Capture Devices & Screens
  - Litter Trap & Litter Boats
  - Contractor Assistance (Osprey)
  
- Public Education and Involvement
  - Partnering with NGOs and Private Companies – Clean up Events and Federal Grants
  - Educational Materials
  - Mobile 311



**City of Mobile** **Maintain Mobile**

205 Government Street  
Mobile, Alabama 36602

Clean Water. Clean Choices



## Storm Water Management Program (SWMP) Plan

NPDES Permit No. ALS000007

September 2018

Prepared By:



851 East I-65 Service Road South, Suite 1000  
Mobile, AL 36606



2124 Moore's Mill Road, Suite 120  
Auburn, Alabama 36830



# Litter Patrol & Pickup: Public Works

- Full time City employees + Community Service workers
- Collect litter along public ROWs and in public spaces
- Crew follow routes of garbage/trash trucks.



- Multiple litter crews using 5 Litter Patrol trucks



# Litter Patrol & Pickup: Public Works



- 4 vacuum ATLVs
- Main roadways and ROWs within City are patrolled and litter is picked up DAILY



# Litter Patrol and Community Service



- Started April 2017
- Litter Removed from ROW – **133,893 pounds**
- **11,000+** hours of court-ordered Community Service has been dedicated to litter removal activities

# Street Sweeping

- ❖ Over **52,000 lbs.** of material collected since FY16
- ❖ Downtown streets swept weekly
- ❖ Eight (8) sweepers
- ❖ Purchased 1 Pelican street sweeper (\$245k) & 2 support dump trucks (\$230k) – FY19 SW fee
- ❖ Allocated to purchase 1 Pelican street sweeper (\$245k) & 2 support dump trucks (\$276k) - FY20 SW fee



# Catch Basin Cleaning

- Over **34,000** catch basins in City
- Minimum of 5% (~1700) required @ year
- Since FY16 - **Cleaned/Inspected 10,520 Inlets**



- 2 Vactor **trucks** bought (\$909.4k) - FY19 SW fee
- 1 Vactor truck (\$462k) allocated - FY20 SW fee
- 3 low side crew trucks purchased for catch basin/gutter cleaning (\$175.5k) – FY19 SW fee
- 2 low side crew trucks allocated for catch basin/gutter cleaning (\$125k) - FY20 SW fee

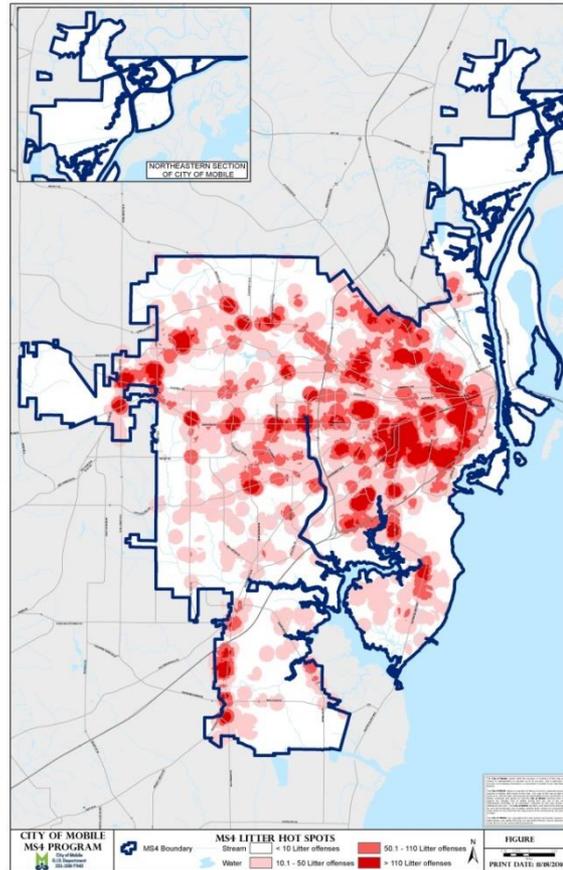
# Marine Debris Interceptor (MDI) Devices

- Pilot Project – 7 installs
- Mardi Gras Park
- Led to Capital Project
- Inspected routinely by City



# Marine Debris Interceptor(MDI) Devices

- 79 MDI devices installed
- Retrofitted in concrete or masonry catch basins
- Devices in all 7 City Council Districts
- \$165,000 expended
- Located based on Litter Hot Spot Map
- Inspected routinely by City



# Catch Basin Screens

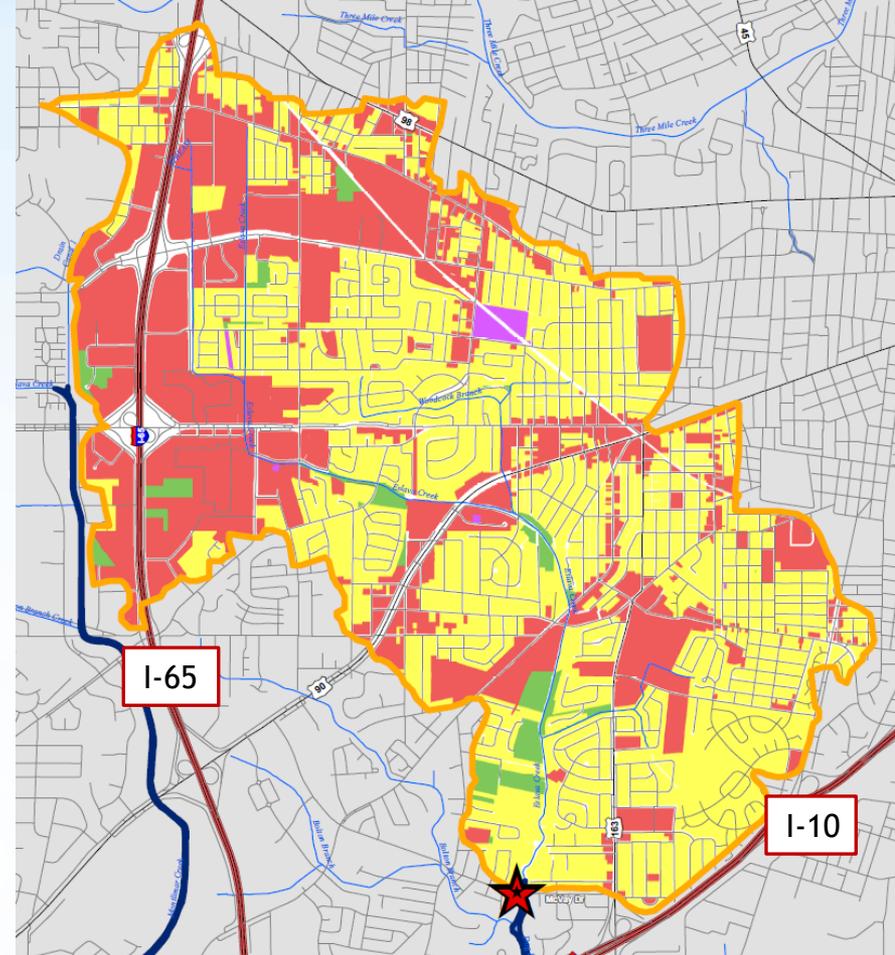
## The Party that Goes Down the Drain

- ❖ 139 catch basin screens installed at 150 catch basins along Mardi Gras Parade Routes
- ❖ 20 parades roll through downtown



# Litter Trap

- Located on Eslava Creek @ McVay Drive
- Contributing drainage area is approximately 8.7 sq. miles
- Safety & Environmental Concerns
- High Litter Area/Waterway
- Waterway Geometry & Flow
- Permitting
  - USACE compliance – Could not restrict navigation
  - ADEM Coastal
  - State Lands



MS4 LITTER TRAP DRAINAGE

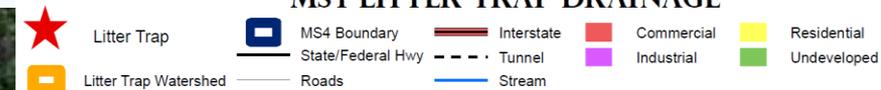


Photo credit - Gulf Equipment



# Litter Trap Maintenance

- Inspected 2-3 times per week and after a 2-year, 24 hour rain event (5.67")
- Emptied after large rainfall or when  $\frac{1}{4}$  CY of floatables are present
- Using a knuckleboom, dump truck & jon boat
- Can take 7-10 men over 5 hours to empty



# Litter Trap Relocation

## Storm water fee 2020

- Funding \$100,000 litter strategy project
- Project to re-install basket from litter trap
- Modification of the booms in existing location
- Requires Permitting



# Litter Boats

Waterway	Average Frequency/Week	Typical Equipment Used
Dog River	2	Carolina Skiff
One Mile/Three Mile	1	Jon Boat



# Litter Removed from the Waterways since FY16



- **Litter Trap – 1473 CY**

- Have started to see a noticeable decline in the annual numbers due to other litter control activities

- **Litter Boats (City Operated) – 187 CY**

- The City re-evaluated this BMP and looked to the Private Sector for help and guidance





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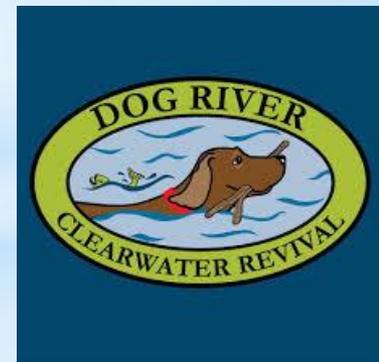


**MOBILE**  
**BAYKEEPER®**

# Public/Private Partnerships for Controlling and Preventing Litter



**Maintain Mobile**  
Clean Choices. Clean Water





# OSPREY

INITIATIVE

We don't just collect litter; we use patented technology to collect data to determine sources and solutions.

[www.osprey.world](http://www.osprey.world)



# Osprey Initiative

- Litter Boats
  - Started with a trial run in 2019 during Mardi Gras. Due to the excellent performance of Osprey
  - City FY20 storm water fee funded Osprey to longer contract for waterway removal activities
  - **Since February 2019 – 16,055 lbs. of litter removed; 2,931 lbs. of material was recycled**



# Osprey Initiative

- Litter Boats
  - Osprey provides technical guidance from field observation
    - Data – location of hot spots, type of litter being removed (legacy vs recent)
  - Osprey's approach is data driven
  - Utilizing the EPA's Escaped Trash Assessment Protocol (ETAP) Method
  - Informed decision making by the City and local NGOs



# Public Education & Outreach

- ❖ Partnerships with Osprey Initiative, MBNEP, ACF, Mobile Bay Keeper, Dog River Clearwater Revival and community environmental groups
- ❖ Website [www.stormwatermobile.org](http://www.stormwatermobile.org)
- ❖ Brochures distributed
- ❖ Public Service Announcements – Clean Water Future
- ❖ Participation in annual clean up events in the community
- ❖ High School student forum
- ❖ Meetings and presentations
- ❖ Storm water fee 2020
  - ❖ Fund updated public education materials



<p><b>Septic Tank Maintenance</b></p> <p>Septic tanks hold water that carries harmful bacteria and microorganisms that can come into contact and pollute storm water, groundwater, creeks, rivers, lakes, and streams.</p> <ul style="list-style-type: none"><li>• Inspect/clean your septic tank regularly to avoid overflows.</li><li>• Do not park or drive vehicles on any part of your septic system.</li><li>• In order to avoid damage from roots, do not plant trees or shrubs over or near your septic system.</li><li>• Do not allow wastewater to flow into storm drains, ditches, streets, etc.</li><li>• Flush only human and animal waste, toilet paper and wastewater.</li><li>• Non-biodegradable items such as diapers, condoms, sanitary napkins, baby wipes, cigarette butts, or cat litter should not be flushed.</li></ul>	<p><b>Storm Drains vs. Sanitary Sewers</b></p> <p>Storm drains are intended to collect and transport runoff from rainfall. Storm drain systems do not remove pollutants from water before discharging it into creeks, streams, or rivers. The storm drainage system includes all storm drains, roadside gutter pans and ditches, drainage channels and swales, creeks and streams.</p> <p>Sanitary Sewers collect wastewater from indoor plumbing such as toilets, sinks, mop sinks, and floor drains and take it to a sewage treatment facility. The treatment facility removes many harmful pollutants from wastewater before discharging it to the river.</p> <p><b>REMEMBER</b>, storm water is not treated and goes straight to a body of water — where we swim &amp; fish!</p>	<p><b>Storm Water Pollution Prevention</b></p> <p>Lawn &amp; Garden Maintenance Proper Disposal of Litter Chemicals &amp; Hazardous Waste Pet Waste Vehicle Washing, Repair &amp; Maintenance Swimming Pool Care Septic Tank Maintenance Storm Drains vs. Sanitary Sewers</p> <p>Storm Water Management Educational Series</p>
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# Public/Private Partnerships



## The Beginnings



[www.mapformobile.org](http://www.mapformobile.org)

August 4, 2017

Roberta Swann, Director  
Mobile Bay National Estuary Program  
118 N. Royal St., Suite 601  
Mobile, AL 36602

Dear Ms. Swann,

I am writing on behalf of the City of Mobile to express support for your EPA/Gulf of Mexico Program Cooperative Agreements 2017 grant proposal titled Comprehensive Strategy for Creating Trash-Free Waterways in the Three Mile Creek Watershed. On November 17, 2015, the Mobile City Council adopted a resolution of support for the Comprehensive Watershed Management Plan for the Three Mile Creek Watershed (TMC WMP) and agreed to participate on the Three Mile Creek Intergovernmental Task Force to focus on implementation of specific measures and actions recommended in that Plan.

The City recognizes that the proposed work will meet goals of the TMC WMP by improving water quality, protecting and improving the health of residents, fish, and wildlife; and by helping to restore the heritage and cultural connection between the watershed and the community. A primary objective met by the proposed work is 75% reduction of the amount of trash in the Creek and its tributaries.

The City is enthusiastic about contributing to development of a strategy that includes selection of optimum sites for Litter Gitter deployment and debris removal. Data derived from collected refuse will inform City staff about locations of "hot spot" drainage areas where particularly high concentrations of litter enter Creek waters and where planners and enforcement personnel can concentrate litter reduction efforts.

In the City's *Map for Mobile - Framework for Growth*, published in November, 2015, Chapter 3 includes the stated goal: Expand comprehensive litter reduction plan and enforcement mechanisms. The proposed project directly aligns and contributes to that City goal.

Again, the City of Mobile wholeheartedly endorses and supports this proposal. I am available to discuss the City's interest in this proposal at [dianne.irby@cityofmobile.org](mailto:dianne.irby@cityofmobile.org) or at 251-208-7048.

Sincerely,

Dianne Irby  
Executive Director, Engineering & Development

City of Mobile | P.O. Box 1827 Mobile, Alabama 36633 | [www.cityofmobile.org](http://www.cityofmobile.org)



DEWBERRY | ARCHITECTS ENGINEERS CONSULTANTS

FINAL

### Three Mile Creek Watershed Management Plan

September 5, 2014

SUBMITTED BY:  
 **Dewberry**  
199 Dauphin Street, Suite 100  
Mobile, Alabama 36602  
251.415.3744

SUBCONSULTANTS  
 **Brown and Caldwell**  
 **AerostarSES**  
 **PlaceMaker**  
Design Studio, LLC

SUBMITTED TO:  
Mobile Bay National Estuary Program  
118 North Royal Street #601  
Mobile, AL 36602  
251.380.7940



[http://www.mobilebaynep.com/assets/landing/TMC\\_Final\\_WMP.pdf](http://www.mobilebaynep.com/assets/landing/TMC_Final_WMP.pdf)



# Public/Private Partnerships - EPA Gulf of Mexico Program Grant



**Project:** Litter Gitters in TMC  
Watershed for 2018-2019

**Lead:** MBNEP

**Plan Goals:** Improve the water quality, protect and improve the health of wildlife, and to restore a cultural connection to the watershed

**Project Partners:** Osprey and City of Mobile

**Funding Source(s):** EPA Gulf of Mexico Program (2 year grant)

**Summary:** 6 strategic locations



# Public/Private Partnerships - EPA Gulf of Mexico Program Grant

- ❖ The Litter Gitter
  - ❖ Has a 90%+ capture rate of litter in the waterway
  - ❖ Maintained after a significant rain event or at least two times per month
  - ❖ Osprey conducted the ETAP methodology for data analysis
  - ❖ **Total litter removed: 5897 lbs. and 1664 lbs. of material recycled over a two year time period**



# Draft UDC- Natural Resources Protection

- Peninsula Overlay (O-PE)
- Riparian Buffers - Additional measures for protection of existing natural resources....
- Peninsula Overlay is in the Dog River Watershed



**Build Mobile led-effort**

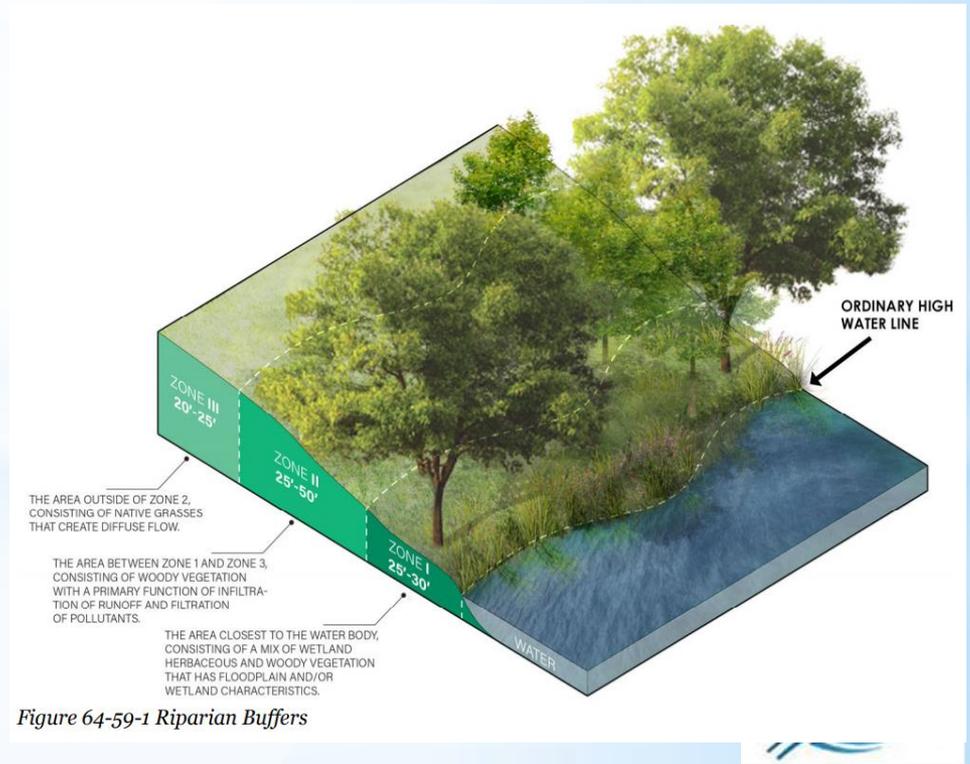


Figure 64-59-1 Riparian Buffers

# Public/Private Partnerships - EPA Gulf of Mexico Program Grant



**Project:** Litter Gitters in Dog River Watershed

**Lead:** DRCR

**Plan Goals:** Improve the water quality, project and improve the health of wildlife, and to restore a cultural connection to the watershed

**Project Partners:** Osprey, MBNEP and City of Mobile

**Funding Source(s):** EPA Gulf of Mexico Program (2 years)

**Summary:** 6 strategic locations



# Public/Private Partnerships - Federal Grants

- ❖ Upon award of the EPA TFW Grant to DRCR, EPA Region IV Director, Ms. Mary Walker conducted a field visit to the City of Mobile in the summer of 2019.
- ❖ During the site visit, EPA and ADEM officials were shown locations of Litter Gitters in the Dog River Watershed and the City's Litter Trap.
- ❖ Additionally, Osprey demonstrated an ETAP for all participants.



# Public/Private Partnerships - EPA Gulf of Mexico Program Grant



**Project:** Litter Gitters in TMC Watershed  
for 2020-2021

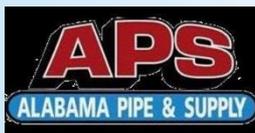
**Lead:** City of Mobile

**Plan Goals:** Improve the water quality,  
project and improve the health of  
wildlife, and a education/outreach  
campaign

**Project Partners:** MBK, Osprey & APS

**Funding Source(s):** EPA Gulf of Mexico  
Program (2 year grant)

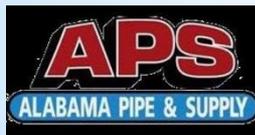
**Summary:** 6 strategic locations and an  
education/outreach campaign in the  
TMC Watershed



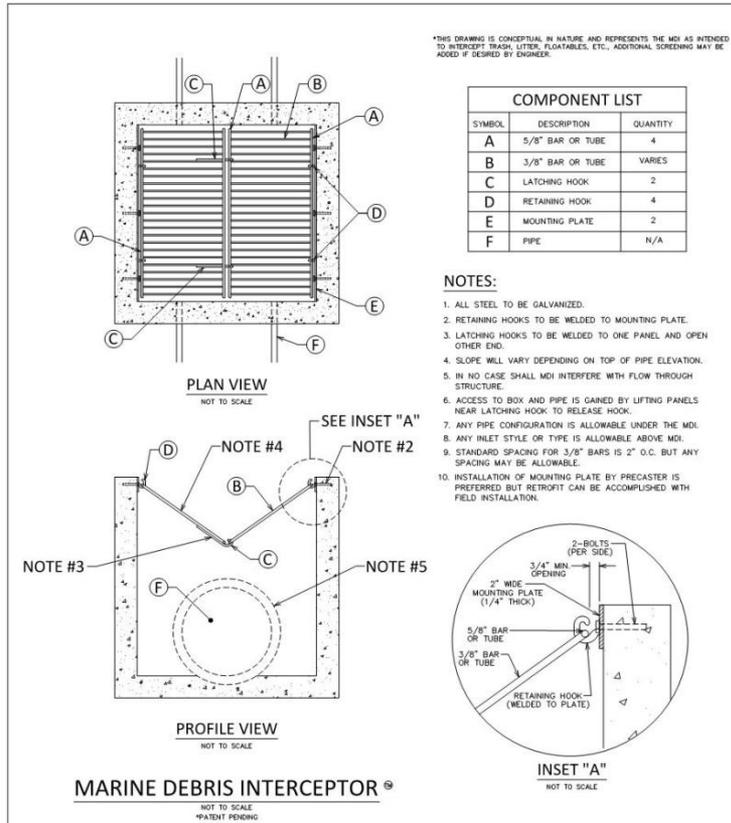
# Public/Private Partnerships - EPA Gulf of Mexico Program Grant



- ❖ EPA Grant 2020-21 Objectives:
  - ❖ Upgrade all six (6) existing Litter Gitter sites to the newer aluminum Litter Gitters
  - ❖ Continue collecting litter data from the Litter Gitters using the ETAP methodology
  - ❖ Install ~40 MDIs in the TMC Watershed (prevention) and utilize the ETAP methodology on these devices
  - ❖ Team will roll out a comprehensive public education/outreach campaign in the TMC Watershed – including going to schools and businesses with the goal of behavioral change
  - ❖ Identify long-term sponsors and partnerships for the continued operation of the Litter Gitters after the grant funding expires



# Public/Private Partnerships The MDI



\*THIS DRAWING IS CONCEPTUAL IN NATURE AND REPRESENTS THE MDI AS INTENDED TO INTERCEPT TRASH, LITTER, FLOATABLES, ETC.. ADDITIONAL SCREENING MAY BE ADDED IF DESIRED BY ENGINEER.



INDEX:	REVISIONS:	BY:	DATE:	DRAWING TITLE: MARINE DEBRIS INTERCEPTOR	DATE: 10-01-16
				COMPANY: ALABAMA PIPE & SUPPLY, INC. UNIVERSAL PRECAST, INC. 251-653-1399 - MOBILE, AL.	SCALE: NOT TO SCALE
					DWG. NO. 0001.0

PREPARED BY: STRAIGHT LINE DRAFTING & DESIGN; EMAIL: STRAIGHTLINECDR@GMAIL.COM



# Public/Private Partnerships NOAA Marine Debris Removal Grant

**Project:** Catch Basin Inserts (MDIs) and a Litter Clean Up in One Mile Creek

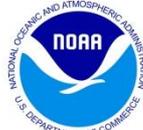
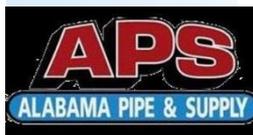
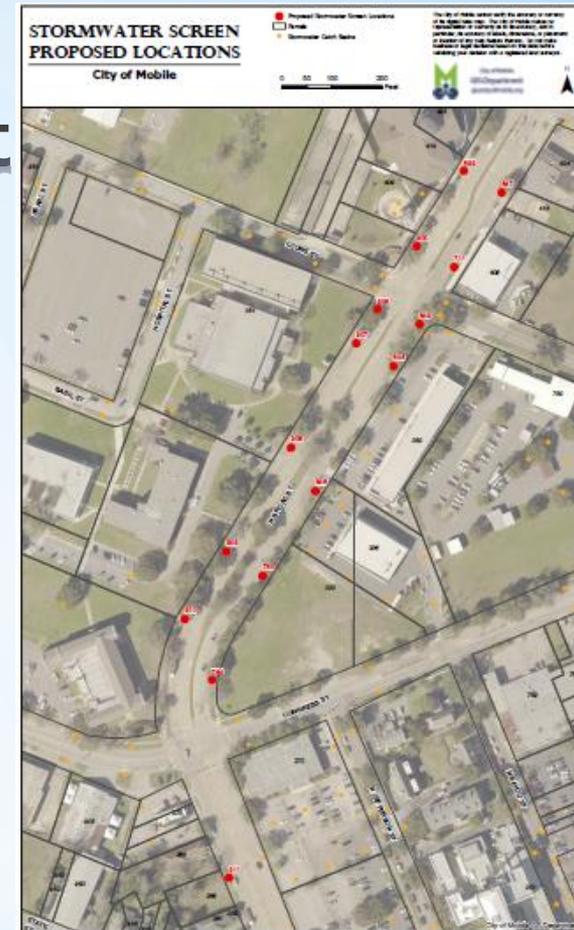
**Lead:** Mobile BayKeeper

**Plan Goals:** To help Mobile move towards a “Litter Free Mardi Gras”

**Partner(s):** City of Mobile, Osprey, APS

**Funding Source(s):** NOAA Grant

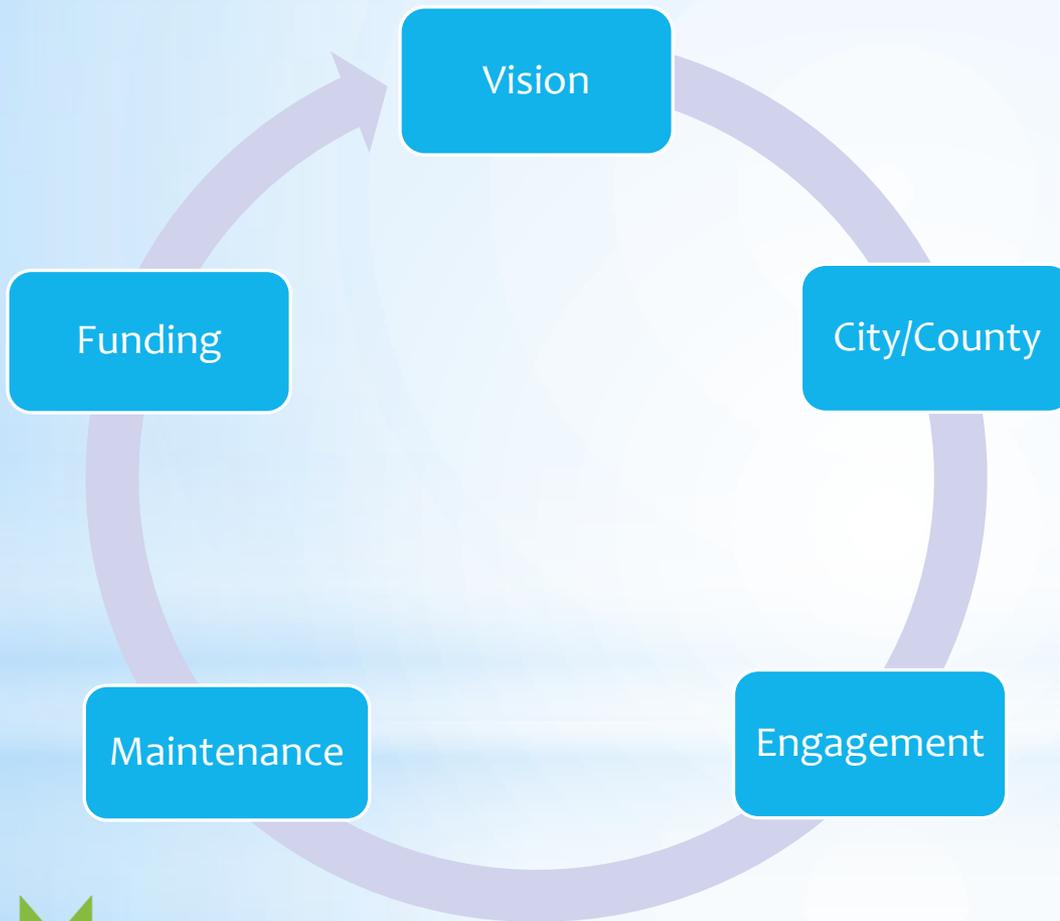
**Summary:** Implemented in 2018 along Mardi Gras parade route A.



# Public/Private Partnerships

- ❖ Tackling litter is an enormous challenge that all communities face at some level
- ❖ Our experiences have found that while there is NO one size fits all solution the same reoccurring elements are true: planning, capturing consistent data and analysis, flexibility and **PARTNERSHIPS**
- ❖ Seek to build relationships within the community with private and public entities that are seeking to achieve the same goal: **eliminating litter**

# What We've Learned



- A partner responsible for the long-term vision
- City or county entities committed to that vision
- Community Engagement
- Committed maintenance must be a priority
- Stable funding from a group that supports the vision

**Rosemary Ginn, PE, CFM, CPMSM**

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(251) 208-6072

**Don Bates, PG**

don.bates@osprey.world

(601)842-7305

**City of Mobile Storm Water Webpage**

[www.stormwatermobile.org](http://www.stormwatermobile.org)

**Osprey Initiative Webpage**

[www.osprey.world](http://www.osprey.world)

# Presenter Contact Information



# Questions?

