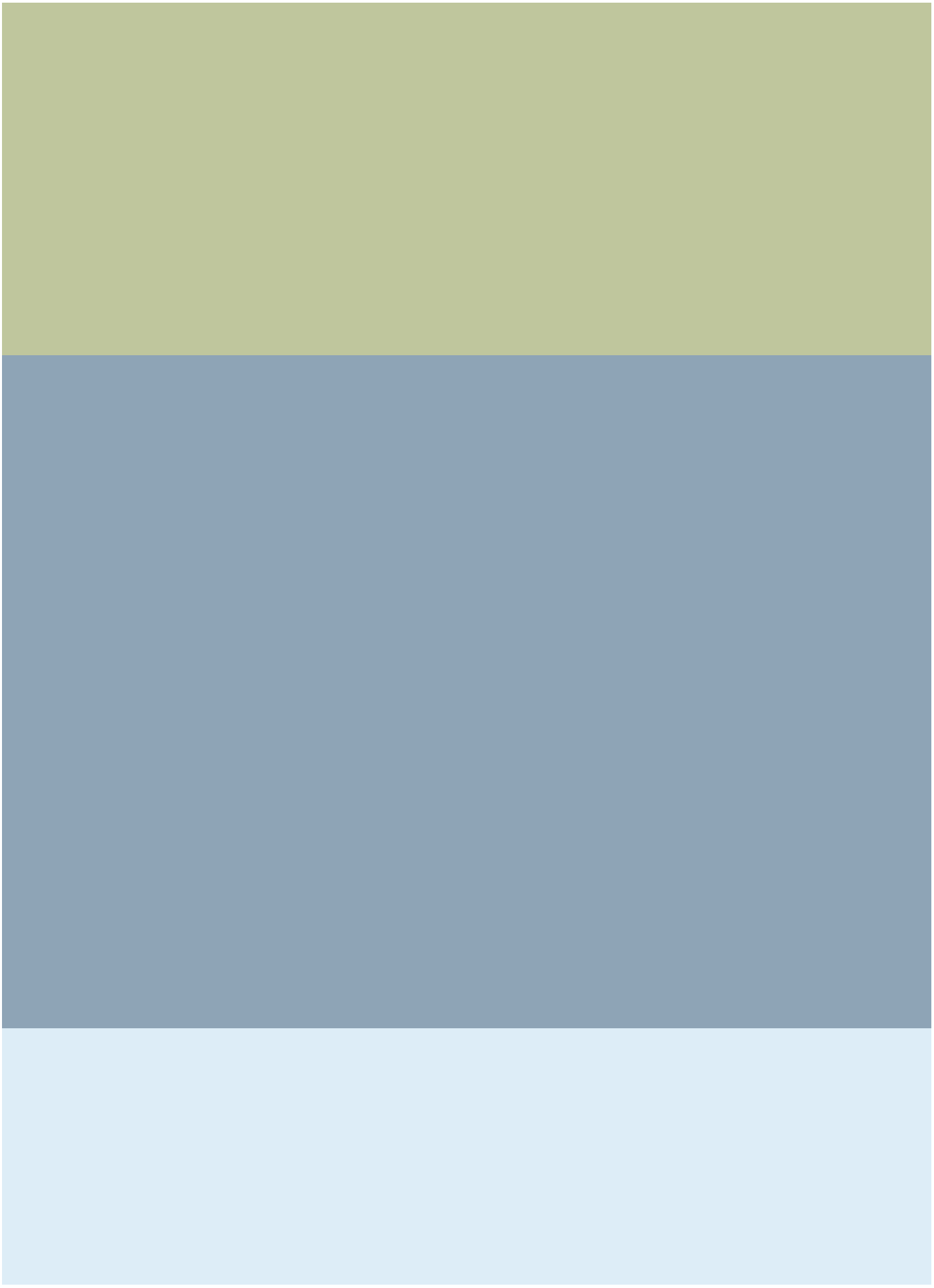
Comprehensive Litter Abatement Plan for the Dog River Watershed

Mobile, Alabama

Produced by Dog River Clearwater Revival in partnership with
Mobile Bay National Estuary Program
Mobile Bay Keeper
Partners for Environmental Progress
with support from the Osprey Initiative and the City of Mobile



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July 2021

Dog River Clearwater Revival
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ACRONYMS

ACAMP	Alabama Coastal Area Management Program
ACES	Alabama Cooperative Extension System
ACF	Alabama Coastal Foundation
ADCNR	Alabama Department of Conservation and Natural Resources
ADEM	Alabama Department of Environmental Management
ADPH	Alabama Department of Public Health
ALDOT	Alabama Department of Transportation
BMPs	Best Management Practices
CACWP	Coastal Alabama Clean Water Partnership
CCMP	Comprehensive Conservation and Management Plan
CWA	Clean Water Act
DIN	Dissolved Inorganic Nitrogen
DIP	Dissolved Inorganic Phosphorous
DO	Dissolved Oxygen
DRCR	Dog River Clearwater Revival
EPA	Environmental Protection Agency
FAMP	Fisheries Assessment and Monitoring Program
GOMP	Gulf of Mexico Program
GSA	Geological Society of America
GSA	Geological Survey of Alabama
LID	Low Impact Development
MAWSS	Mobile Area Water and Sewer System
MBNEP	Mobile Bay National Estuary Program
MCHD	Mobile County Health Department
MHW	Mean High Water
NAFSMA	National Association of Flood and Storm Water Management Agencies
NAWQA	National Water-Quality Assessment
NEMO	Non Point Education for Municipal and Elected Officials
NFWF	National Fish and Wildlife Foundation
NPDES	National Pollutant Discharge Elimination System
NOAA	National Oceanic and Atmospheric Administration
NPS	Non-Point Source (Pollution)
NRDA	Natural Resource Damage Assessment
SARPC	South Alabama Regional Planning Commission
SAV	Submerged Aquatic Vegetation
USACE	US Army Corps of Engineers

PREFACE

According to Keep America Beautiful Inc., litter is improperly managed waste. Littering is the result of waste misplaced due to a person's behavior, whether intentional or unintentional.

Where do people litter?

- Where litter has already accumulated
- Where someone else will clean up after them
- Where they feel no sense of ownership for the property

Where does litter come from?

- Motorists
- Pedestrians
- Uncovered vehicles
- Household litter handling
- Construction/demolition sites
- Commercial refuse sources

Last year, at least 101,000 pounds of litter were removed from within the Dog River Watershed, which includes portions of all seven Mobile City Council districts. In Mobile, frequent hard rains carry litter from sidewalks, yards, streets, and parking lots into storm drains where it is carried to the nearest receiving water body. The illusion of "magically cleaned streets" is due to the reality that stormwater runoff washes cigarette butts, food wrappers, Styrofoam, plastic, and other litter into the waters where we fish, boat, and swim. ***Litter on the ground ends up in the water.***

Eslava Creek Drainage Canal

Timeline to Dog River Litter Capture Devices

Dog River Clearwater Revival (DRCR) Mobile, AL

2004

Research Begins

DRCR Board members visit other cities' litter capture devices. Mobile City Councilman Brooks gives discretionary funds to DRCR for experimental boom.

2005

First Test

Eslava Creek chosen as test site. DRCR purchases and installs 150 ft.+/- of boom. Boom system fails. Discussions increase with City. Research continues.

2009

Fundraising Begins

DRCR chooses a Bandalong Litter Trap launching a 2-year fundraising campaign netting $150,000 toward purchase of device.

2011-12

Turning Point

DRCR files "Letter of Intent to Sue" and ADEM cites City of Mobile for violations of Clean Water Act. Agreement reached. DRCR provides funding to City for purchase, installation and maintenance of two litter containment devices.

2013

Second Test

City purchases and installs a small trap in Eslava Creek which fails. Agreement is amended. DRCR supplies funding to City to begin engineering and permitting for Bandalong device.

2014-15

Bandalong Installed

Public meetings held, permits and easements obtained. Bandalong trap installed on Eslava Creek at McVay Drive Spring 2015.

2016

Success!

Approximately 90% litter captured. DRCR hires Thompson Engineering to begin study to determine second device location.

2018

Second Test

Bolton Branch chosen as test site. Litter Gitter developed and installed through Thompson. DRCR received EPA/GOMP grant to, among other things, install six more traps and develop a Litter Strategy for the City of Mobile

2019

Litter Gitters

Osprey Initiative is formed providing Litter Gitter devices maintenance to the City of Mobile funded through DRCR grant. Three additional devices are installed for DRCR in identified hot spot locations.

2020

More Litter Gitters

Three additional Litter Gitters installed and maintained using EPA/GOMP grant funding. Collective litter efforts yield over 101,000 pounds removed from Dog River Watershed.

2021

A Path Forward

Grant funding ends and DRCR splits cost of maintaining traps inside Dog River Watershed. City of Mobile provided Litter Strategy as a path forward for a litter free Dog River.

Table 1. *Timeline to Dog River Litter Capture Devices*

INTRODUCTION

As the City of Mobile has grown, the Dog River Watershed has borne the brunt of this growth. Its natural landscape has been converted to hardened surfaces, and the Watershed has suffered impacts related to greater volumes and velocities of stormwater runoff – most visibly the persistent occurrence of litter and floating debris in its waters. In 1986, the City of Mobile declared a war on litter and created Keep Mobile Beautiful, whose purpose was to reduce litter. Eight years later, the Dog River Clearwater Revival (DRCR) was established to improve the health of Dog River with a heightened focus on litter.

By 1995, a report by the Alabama Department of Environmental Management (ADEM, 1995) found litter to be the primary source of pollution in Eslava Creek, Bolton Branch, and the headwaters of Dog River. The accumulation of litter in these areas of the Dog River Watershed negatively affects the quality of water entering Mobile Bay. Abatement of litter in these drainage areas would improve the quality of their receiving waters (ADEM, 1995). Beyond hosting and supporting hundreds of community clean-ups throughout the Watershed, DRCR secured partial funding for the installation of the first litter large-scale litter capture device in the City of Mobile. The Bandalong Litter Trap, installed in Eslava Creek in 2015, transformed how the City captures Litter in Dog River waterways.

In 2018, DRCR partnered with Mobile Bay National Estuary Program (MBNEP) to initiate implementation of the Dog River Watershed Management Plan's focus on reducing litter. A grant application was developed and on July 17, 2019, DRCR was awarded $328,101 from the U.S. EPA Gulf of Mexico Program to implement a multi-pronged approach for litter abatement. Supporting partners included Mobile Baykeeper and Partners for Environmental Progress (PEP). The purpose of the grant was to stem the flow of litter throughout Dog River and its tributaries.

Goals included:

- Introducing the use of new trash reduction technologies;
- Establishing a standard trash monitoring protocol;
- Improving people's awareness, knowledge, and behavior about littering; and
- Improving the enactment and enforcement of laws to reduce trash.

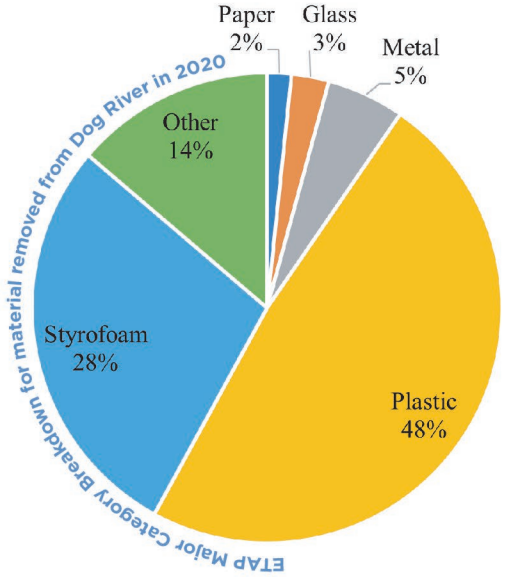
Today, using the information gained through implementation of the projects included in the grant, a **Comprehensive Litter Abatement Plan for the Dog River Watershed** has been developed to assist the City of Mobile in strategically focusing its efforts and resources on litter management in this watershed. The desired results of this plan include:

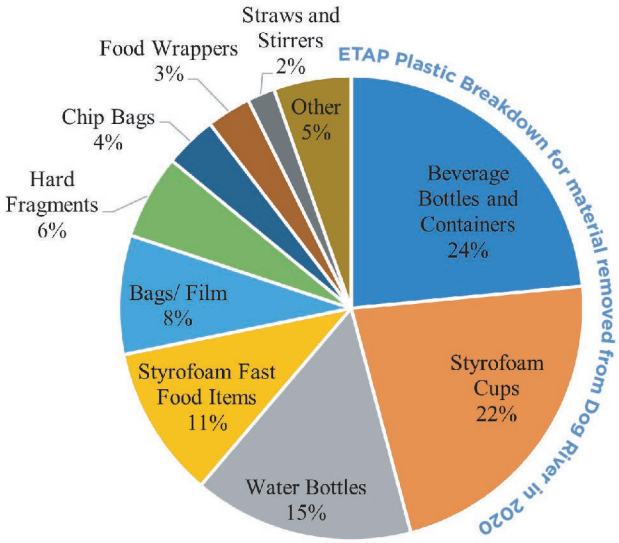
- Reduce littering and litter in the environment;
- Improve use of data to measure effectiveness of efforts;
- Increase community awareness, education, and involvement in litter reduction strategies;
- Improve regulations, ordinances, and enforcement related to litter;
- Centralize an organizational structure; and
- Increase consistent and sustained funding for litter management.

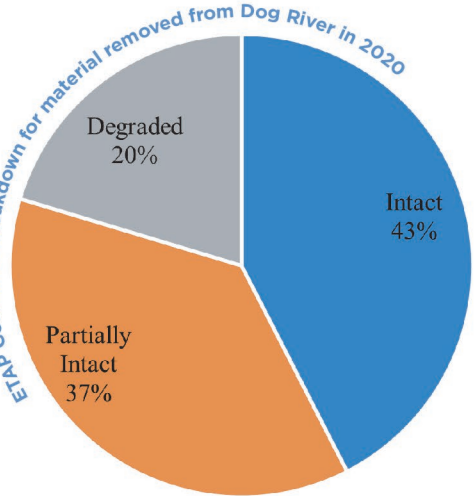
It is important to note while this strategy was developed for the Dog River Watershed, its goals and objectives are transferable to and replicable in other City watersheds, including Three Mile Creek, Eight Mile Creek and Garrow's Bend; other coastal Alabama municipalities; and beyond.

The **Comprehensive Litter Abatement Plan for the Dog River Watershed** was developed based on trash collection data secured during a two-year period; an assessment of how 10 different similar-sized cities address litter; and three separate outreach efforts targeting businesses, schools, and the general public. Data from City litter abatement efforts were not fully incorporated. However, the work leading up to this Plan was vetted with Rosemary Ginn, Ryne Smith, David Ludwig, and Ray Richardson of City Mobile Engineering Department on several occasions. Consultations were also held with John Peavy, the Superintendent of Public Works, and Dan Otto, the Superintendent of Parks and Recreation.

DOG RIVER WATERSHED





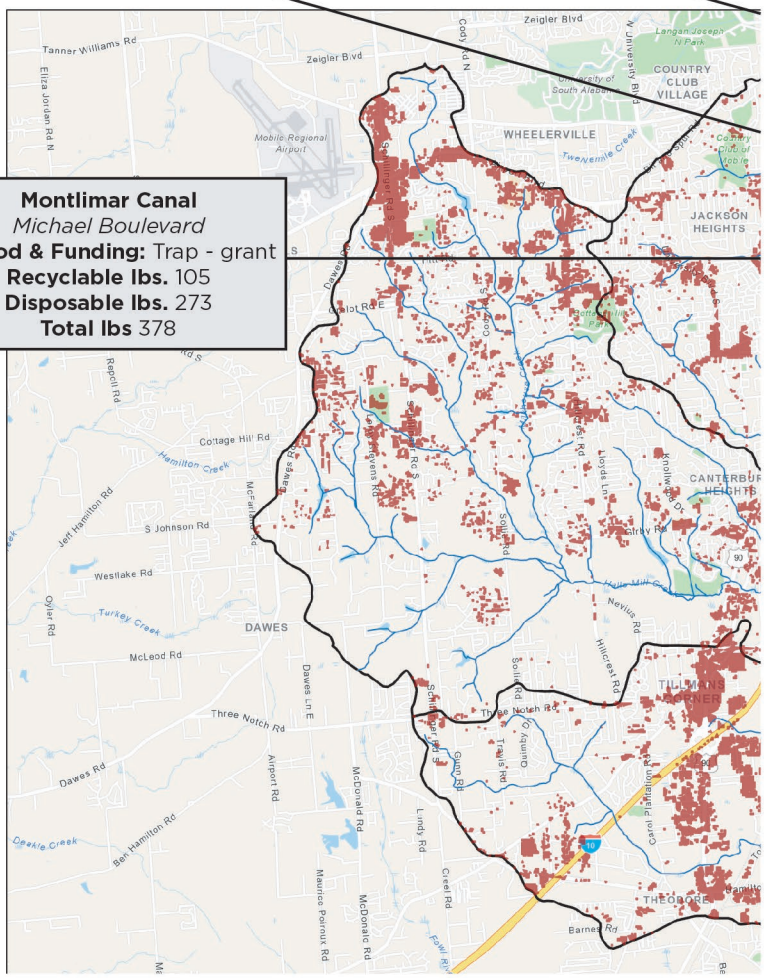


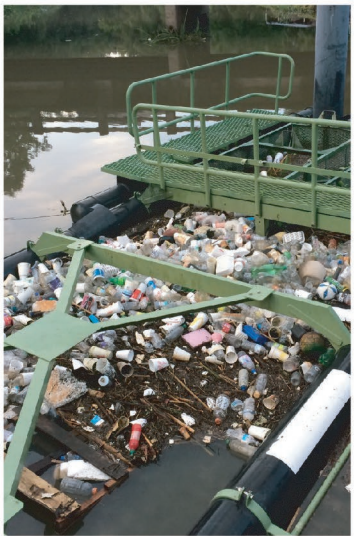
Source: Numbers: Osprey Initiative, Map: Mobile Bay National Estuary Program

Moore Creek
Michael Boulevard
Method & Funding: Trap - grant
Recyclable lbs. 133
Disposable lbs. 404
Total lbs 573

Eslava Creek
Emogene Street
Method & Funding: Trap - grant
Recyclable lbs. 52
Disposable lbs. 223
Total lbs 276

Montlimar Canal
Michael Boulevard
Method & Funding: Trap - grant
Recyclable lbs. 105
Disposable lbs. 273
Total lbs 378

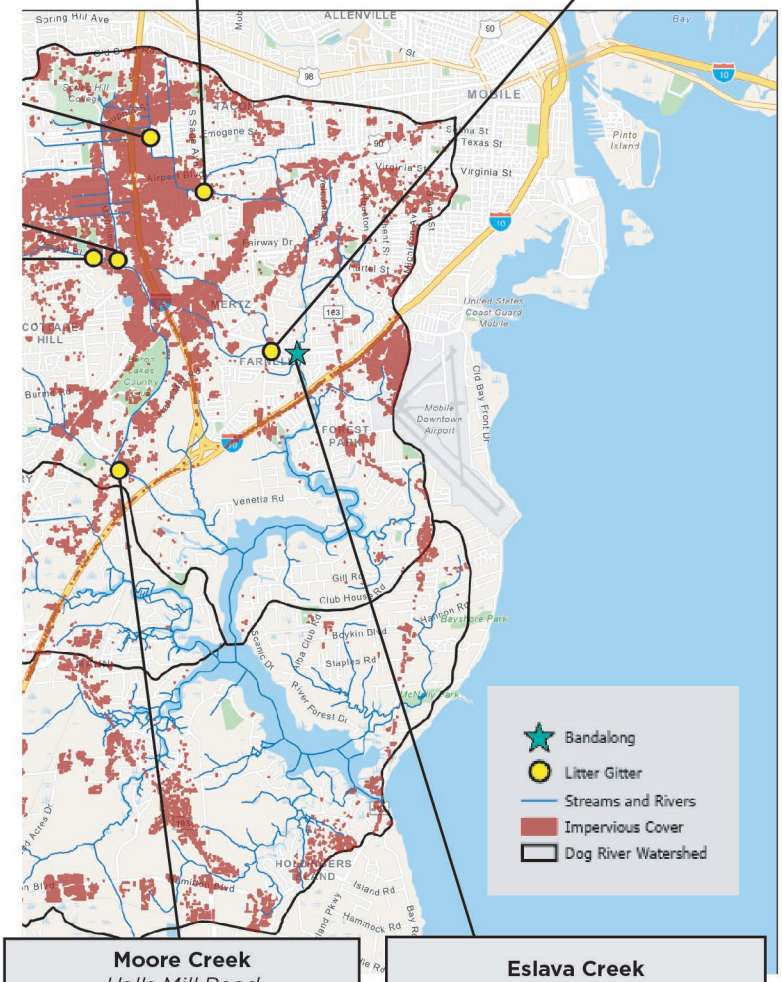




LITTER COLLECTION 2020

Eslava Creek
Sage Avenue
Method & Funding: Trap - grant
Recyclable lbs. 160
Disposable lbs. 490
Total lbs 650

Bolton Ranch
Navco Road
Method & Funding: Trap - grant
Recyclable lbs. 178
Disposable lbs. 713
Total lbs 891



Moore Creek
Halls Mill Road
Method & Funding: Trap - grant
Recyclable lbs. 120.64
Disposable lbs. 316.97
Total lbs 437.61

Eslava Creek
McVay Avenue
Method & Funding: City of Mobile
Disposable lbs. 48 CY
Total lbs 1,049

TOTAL TRAP(S) COLLECTION POUNDS **4,219 lbs**

VOLUNTEER CLEANUPS **3,153 lbs**

CITY OF MOBILE LITTER BOATS **12,927 lbs**

CITY STREETS & RIGHT-OF-WAY
Community Service, Litter Patrol, Mowing Subcontractors **81,299 lbs**

TOTAL POUNDS OF LITTER REMOVED IN DOG RIVER WATERSHED = 101,599 lbs

PART ONE: THE CURRENT LANDSCAPE

Characterization of the Dog River Watershed

Overview

To understand how litter gets into the water, we must first examine the land and waterscape. The Greater Dog River Watershed encompasses approximately 59,703 acres (93.3 square miles) with 174 miles of streams and waterways (USGS, 2017). Its boundary begins just inland from Mobile Bay, runs west through the City of Mobile, sweeps north then runs south just east of the Mobile Airport before turning east again towards Mobile Bay and curving back to the north to encompass most of the commercial and many of the residential portions of the City of Mobile. According to the Center for Business and Economic Research at the University of Alabama, in 2014 the population of the Greater Dog River Watershed was 146,237 and projected to increase to 152,627, or by 1.5%, by 2030.

Subwatersheds and Catchments

Occupying much of the area of the City of Mobile and located in Mobile County, Alabama, the Greater Dog River Watershed Complex is subdivided into three distinct drainage basins - Upper Dog River; Halls Mill Creek; and Lower Dog River watersheds.

The Complex stretches approximately 12 miles inland from the western shore of Mobile Bay and spans almost 11 miles from north to south. It includes 101 smaller individual drainage areas, called “catchments” shown in Figure 1.

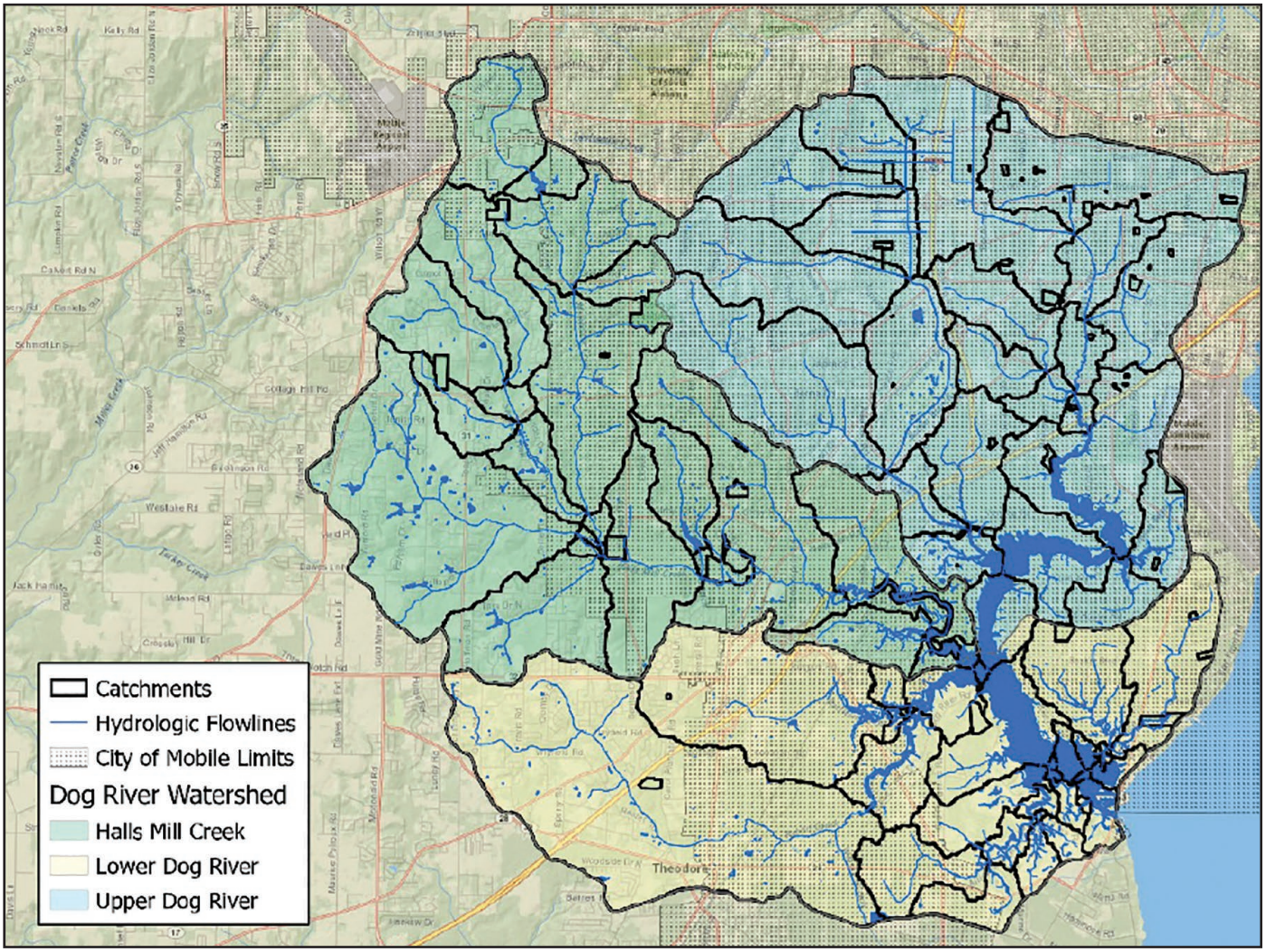


Figure 1. *The greater Dog River Watershed, 12-digit HUCs, and 101 smaller drainage units, called catchments.*

Target Catchments

To target those areas where litter was more likely to be found, ten (10) catchments, described in Table 2 were identified. Criteria used for designation as a *target catchment* included:

1. The catchment area is at least 25% urbanized (Schueler et. al.1994 stipulates impervious area of greater than 25% is related to degraded water quality).
2. Hydrologic model output for the catchment indicates it includes areas of pooling or accumulation of at least two inches of water during a six-inch rain event, or
3. The catchment includes waters or streams draining an adjacent catchment meeting the first two criteria.
4. The catchment falls below the 25% urbanization threshold but includes areas of concentrated urbanization near water pooling.

Table 2. *Target Catchments*

Catchment	Name	Acres
1	Airport/Milkhouse Creek	1,074
2	Creekwood/2nd Creek	1,201
3	Grelot/UT-Milkhouse Creek	355
4	Eslava Creek	2,187
5	Michael/Montlimar Creek	712
6	Mertz/Bolton Branch	772
7	Morningside/Bolton Branch	486
8	Halls Mill/Moore Creek	1,236
9	Hwy 90/Rattlesnake Bayou	2,805
10	Carol Plantation/Rabbit Creek	6,406

Based on these criteria, these catchments were designated and are shown in Figure 2. One of the ten catchments, #10, located in the Lower Dog River Watershed, fell below the 25% impervious threshold but was selected and validated through field survey, due to the intensity of urbanization along Highway 90 including areas near Hamilton Boulevard.

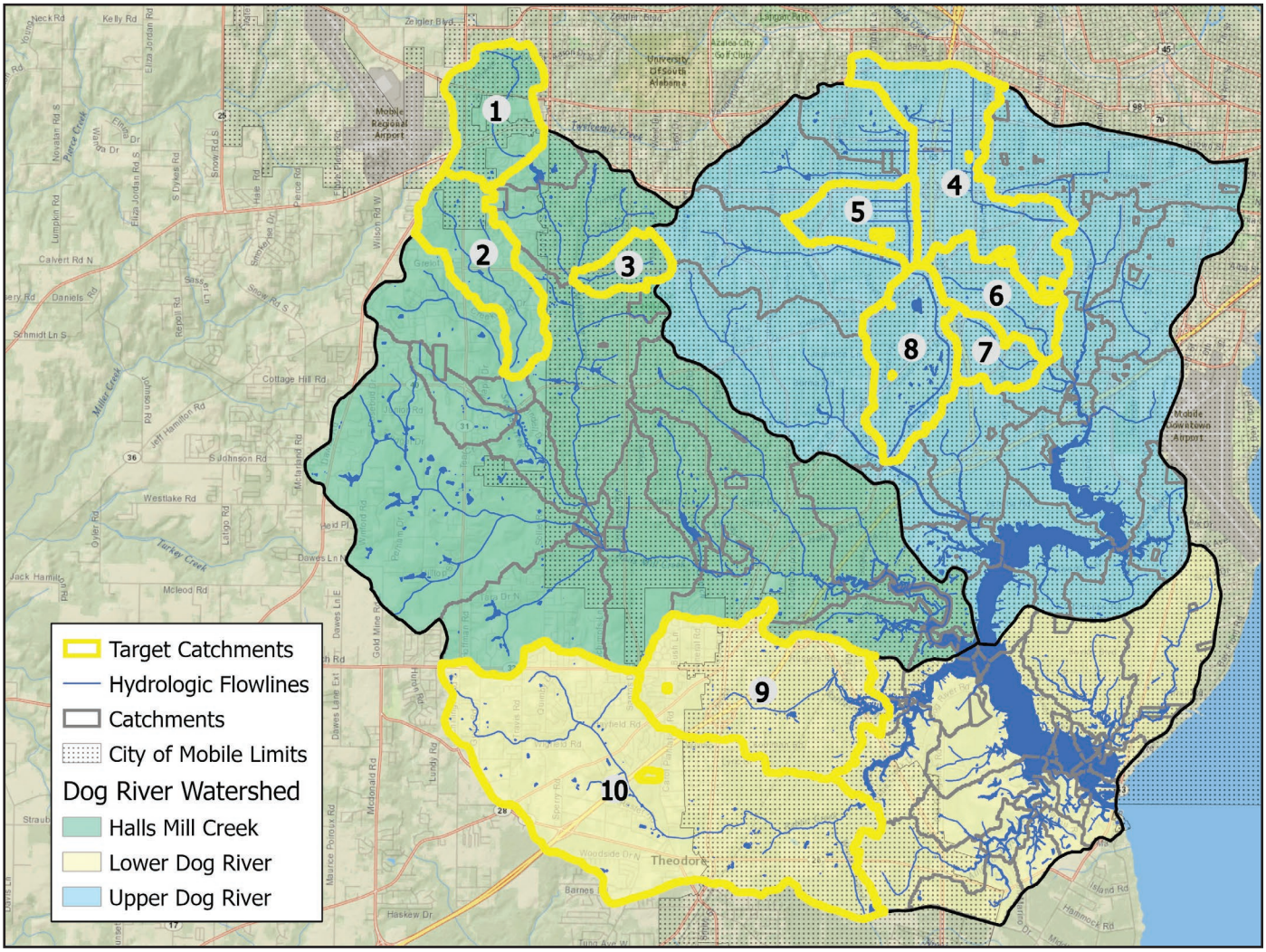


Figure 2. *Map of Dog River Complex showing the 10 catchments meeting criteria for designation as a target catchment.*

Land Use/Land Cover

As the Dog River Watershed has converted from natural landscapes to developed communities, impervious surfaces like roads, parking lots, sidewalks, and rooftops, limit water infiltration. Increases in impervious cover result in greater volumes and velocities of stormwater runoff and non-point source pollutants, including litter. Impervious surfaces cover an estimated 21.9% of the Upper Dog River Watershed, 13.6% of the Halls Mill Creek Watershed, and 11.7% of the Lower Dog River Watershed (MBNEP, 2017).

Commercial and Residential Concentrations

The Dog River Watershed Complex is predominantly developed. The density of development of an area can be a useful indicator of litter. The National Land Cover Database (NLCD) dataset was used to identify areas of low, medium, and high-intensity development throughout the Watershed shown in Figure 3. Both medium and high intensity areas include commercial, industrial, and residential uses where people reside or work in high numbers. Generally, low intensity developed areas indicate residential concentrations while medium and high intensity developed areas indicate commercial and industrial uses.

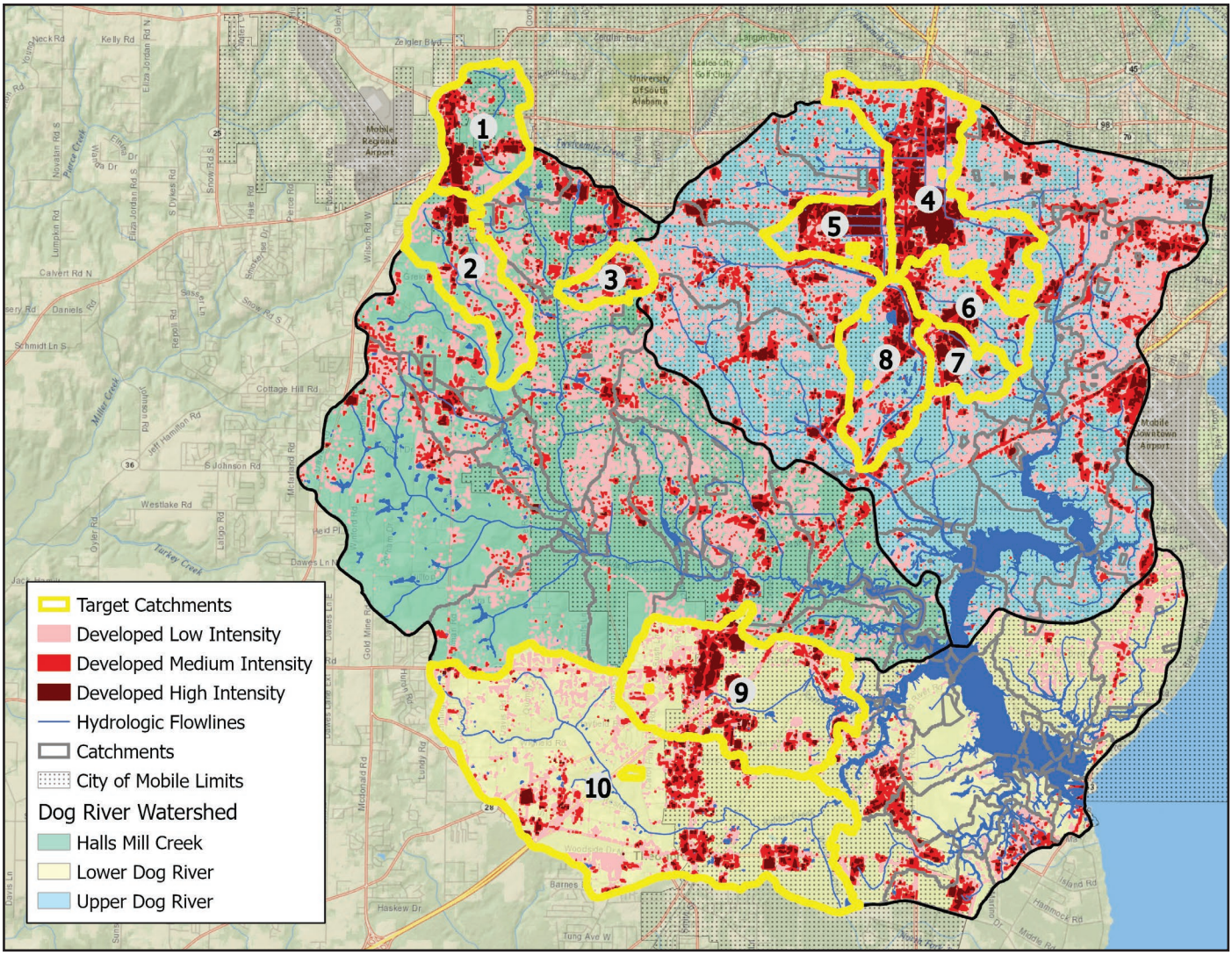


Figure 3. *Developed areas within the Dog River Watershed Complex with catchment boundaries indicated.*

NLCD defines urbanized areas as

- **Low intensity** developed (20-49 percent impervious area)
- **Medium intensity** developed (50 to 79 percent impervious area)
- **High intensity** developed (80 to 100 percent impervious area)

Low and Moderate Income Areas

Of the 10 target catchments identified, five catchments intersected census blocks with greater than 50% of the households earning less than 80% of the median income, shown in Figure 4. Four low-to-moderate-income census blocks lie entirely within City of Mobile geopolitical boundaries. A fifth block in target catchment #10 lies in unincorporated Mobile County.

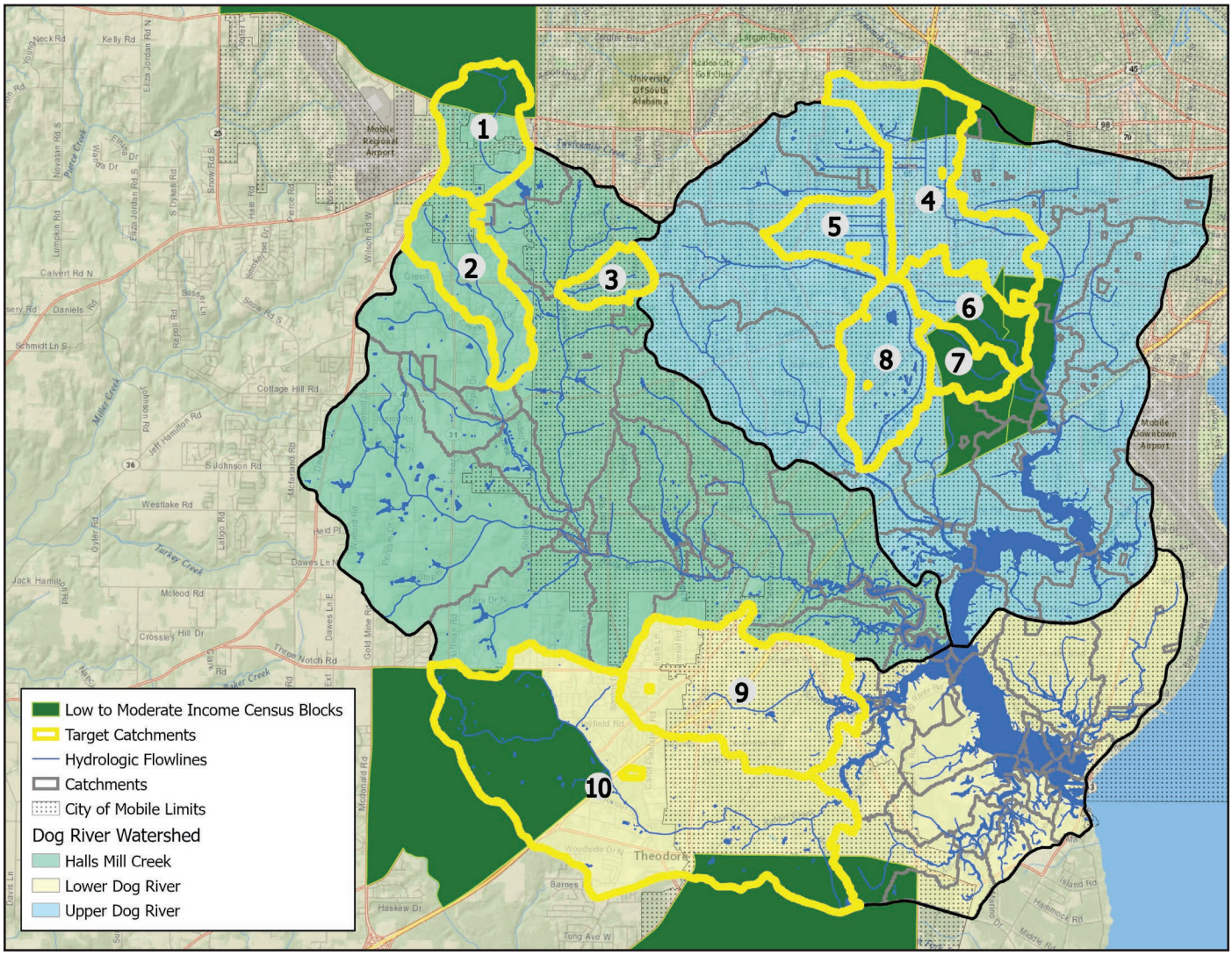


Figure 4. *Catchments intersecting census blocks with greater than 50% of the households earning less than 80% of the area's median income. Source: Mobile Bay National Estuary Program.*

Overview and Detail of Litter Captured at Six Sites in the Watershed

In the last quarters of 2019 and early 2020, six (6) sites were strategically selected within the Dog River Watershed and Litter Gitters were installed funded through the organization's EPA/GOMP litter abatement grant. Locations were chosen based on hot spot reporting, tactical reporting, GIS modeling and ground-truthing. Osprey personnel emptied and maintained the Litter Gitters, quantifying and characterizing collected material using the EPA's Escaped Trash Assessment Protocol (ETAP) and recycling recyclables. Osprey also conducts manual litter removal from area waters from motorized watercraft through a contract with the City of Mobile. A full report of litter captured can be found in Appendix A.

Baseline Reduction Comparison Assessment

To assess the effectiveness of Litter Gitters as a reduction strategy, two sites, Bolton Branch at Navco Road and Eslava Creek at Emogene Street were chosen as test sites to measure decreases in litter downstream. Three collection zones were established for each site: Upstream (banks, stream bed); trap zone (the entire trap system); and downstream (banks, stream bed and waterway from the back of the trap to 100 yards downstream of the trap). The reduction comparison assessment was conducted a total of four (4) times per site with every piece of trash being collected, removed, and catalogued according to volume and weight of recyclables and disposables in addition to individual ETAP data collection for each section. The reduction comparison assessment shown in Table 3 resulted in the demonstrated effectiveness of the Litter Gitter devices to reduce downstream flow by **over 80%**.

Table 3. *Baseline Reduction Comparison Assessment*

Site Name	Date	Section	Total (lbs)	Total (cf)	Percent Decrease (Up+Trap vs. Down)	Average Reduction
BoltonBranch_Navco	7/30/2020	Upstream	32.74	19.00	85.09	80.71
		Trap	26.88	12.00		
		Downstream	8.89	2.50		
BoltonBranch_Navco	8/20/2020	Upstream	6.38	9.00	59.90	
		Trap	28.73	43.00		
		Downstream	14.08	10.50		
BoltonBranch_Navco	10/15/2020	Upstream	8.59	10.00	84.07	
		Trap	24.61	21.00		
		Downstream	5.29	6.00		
BoltonBranch_Navco	2/8/2021	Upstream	12.11	5.00	93.80	
		Trap	25.47	7.00		
		Downstream	2.33	2.00		
Eslava_Emogene	8/17/2020	Upstream	11.12	7.00	75.21	85.15
		Trap	12.88	19.00		
		Downstream	5.95	5.00		
Eslava_Emogene	8/20/2020	Upstream	3.64	7.00	86.34	
		Trap	8.66	8.00		
		Downstream	1.68	1.00		
Eslava_Emogene	10/22/2020	Upstream	5.97	5.00	95.59	
		Trap	5.36	4.00		
		Downstream	0.50	0.50		
Eslava_Emogene	12/7/2020	Upstream	0.25	0.50	83.45	
		Trap	27.00	20.00		
		Downstream	4.51	2.00		

Litter Hotspot Tactical Cleanups

Tactical cleanups were undertaken as needed in areas considered hazardous for volunteer efforts. These occurred typically at identified litter "hotspots" based on notification from partners and local citizens. Crews conducted comprehensive cleanups to remove all litter and debris from the site to restore its natural,pristine condition. Data collection was fully integrated into litter removal activities.

ETAP Data Collection

The Escaped Trash Assessment Protocol (ETAP), developed by the U.S. Environmental Protection Agency's Trash Free Waters program, is a quantitative survey tool which provides a standard method for collecting and assessing litter data. The protocol is designed to be applied to a broad range of site types — e.g., parks, streets, parking lots, etc. — and environmental conditions — e.g., various hydrological and climatic regimes. This highly adaptable method for trash monitoring provides practitioners and citizen scientists with a comprehensive and rigorous method for quantifying litter loadings. The tool can also be used to assess item age and level of fouling and analyze and compare across specific material types and categories of trash collected. This information can eventually be used to guide upstream source reduction decisions. The following data in Table 4 provides the results of ETAP for the Litter Gitter sites within the Dog River Watershed:

Table 4. *Analyzed ETAP data for Litter Gitters within the Dog River Watershed. Prepared by Mobile Bay National Estuary Program.*

Site	Location	Type	Percent	Condition	Percent	Brand (top 3)	Percent
LG1	Eslava Creek/Emogene (Catchment 4)	Paper	1.45	Intact	62.14	Coke	45.00
		Glass	1.45	Partially Intact	33.77	Walmart	35.00
		Metal	6.33	Degraded	4.09	Swisher	25.83
		Plastic	82.32				
		Other	8.44				
LG2	Eslava Creek/Sage (Catchment 4)	Paper	1.62	Intact	61.83	Coke	61.54
		Glass	1.02	Partially Intact	31.98	Dasani	27.27
		Metal	3.96	Degraded	6.19	Polar Pop	26.57
		Plastic	85.48				
		Other	7.92				
LG3	Bolton Branch/Navco (Catchment 6,7)	Paper	1.44	Intact	66.36	Coke	73.68
		Glass	3.53	Partially Intact	32.72	Busch	31.58
		Metal	9.16	Degraded	0.92	Swisher	29.82
		Plastic	73.17				
		Other	12.70				
LG4	Moore Creek/Halls Mill Creek (South of Catchment 8)	Paper	1.29	Intact	53.96	Coke	42.86
		Glass	1.29	Partially Intact	42.00	Swisher	17.29
		Metal	3.72	Degraded	4.04	Gatorade	15.04
		Plastic	81.91				
		Other	11.79				
LG5	Montlimar/Michael Blvd. (Catchment 5)	Paper	1.72	Intact	68.77	Coke	43.16
		Glass	0.96	Partially Intact	29.12	Great Value	24.21
		Metal	4.41	Degraded	2.11	Dasani	18.95
		Plastic	81.99				
		Other	10.92				
LG6	Moore Creek/Michael Blvd. (South of Catchment 5)	Paper	2.17	Intact	68.34	Coke	73.72
		Glass	0.54	Partially Intact	29.91	Swisher	17.52
		Metal	5.95	Degraded	1.76	Dasani	17.52
		Plastic	81.73				
		Other	9.61				

Inventory of Watershed-Wide Outreach Programs and Awareness Campaigns

Across the City, nonprofit organizations and individuals concerned with the environment, listed in Table 5 consistently conduct outreach programs and awareness campaigns. These campaigns are designed to increase people's awareness of the connections between litter, stormwater runoff, and trash in our waters. Some activities engage them in on-the-ground litter abatement efforts.

Table 5. *Outreach Programs and Awareness Campaigns*

Activity	Lead	Type of Program
Can it Y'all Campaign	City of Mobile	Awareness/Education
Skip the Plastic	GCDS	Awareness/Education
Create a Clean Water Future	MBNEP	Awareness/Education
Ditch the Disposables	MBNEP	Awareness/Education
Don't Be Trashy	MBNEP	Awareness/Education
Trash Blows Campaign	MBNEP	Awareness/Education
Reduce the Use	Mobile Baykeeper	Awareness/Education
Master Environmental Education (MEE)	ACES	Educational Enrichment
Coastal Alabama Service Learning Program (9th-12th Grades)	ACF	Educational Enrichment
Coastal Kids Quiz (5th Grade) and Coastal IQ (Grades 5 and up)	ACF	Educational Enrichment
Gulf Coast Bay Buddy Program (1-3rd Grades)	ACF	Educational Enrichment
The Mobile Bay Estuary Corps Program (6th-8th Grades)	ACF	Educational Enrichment
Water Festivals (4th Grade)	ACF	Educational Enrichment
Strategic Watershed Awareness and Monitoring Program (SWAMP)	Mobile Baykeeper	Educational Enrichment
Love Your Community	Mobile County	Engagement
MLK Day of Service	Mobile United	Engagement
"Don't Drop it on Alabama" Spring Cleanup	PALS	Engagement
Adopt a " " Programs	PALS	Engagement
Coastal Cleanup	PALS	Engagement
Lean and Clean	Robin Roberts	Engagement

Targeting Truck Bed Trash through Awareness and Product Development

It is estimated that as much as 5% of all trash along US roads and waterways results from inadvertent "truck bed" littering. In Mobile, truck bed trash was targeted due to the high number of trucks in this area.

Trash Blows! Stow it!

In 2019, Partners for Environmental Progress (PEP), a local coalition of area business and industry focused on balancing economic development with environmental protection, expanded the "Trash Blows- Stow it!" campaign into the Dog River Watershed. This campaign, developed by MBNEP, educated employees of member businesses and others about the incidence of litter blowing out of truck beds, a significant contributor to the litter problem throughout the Watershed.

Nearly 100 companies who operated fleets of trucks or have a substantial number of employees who drive pick-up trucks were targeted. Other local businesses within the Watershed that attract pick-up truck owners and drivers, such as truck dealerships, transportation companies, and businesses where truck owners or drivers shop for auto services and supplies were included.

The Trash Blows campaign ran August 2020 to May 2021 beginning and ending with surveys to determine effectiveness. More than 200,000 employees and facility visitors observed the campaign signs at member facilities (during a time when most were only open to essential visitors and employees). Most participating businesses relied heavily on email and internet communication to educate employees due to their workforce working remotely during the COVID pandemic.

The campaign included such targeted outreach components as billboards, website content, social media/ digital ads, newsletter articles and other printed and digital educational materials. The campaign proved successful with participating companies able to affect some behavior change, as identified in the limited post-survey responses (97% stopped putting trash in the bed of their truck.) The entire report can be found in Appendix B.

Truck Bed Trash Can "Competition"

To reduce litter delivered from pickup truck beds, MBNEP launched a truck bed trash can competition to create a solution for securely stowing trash in truck beds.

The "Truck Bed Trash Can Competition" aimed to raise awareness of truck bed litter while promoting the development of new technologies aimed at reducing truck bed trash. The competition was intended to facilitate the production and marketing of a viable "truck bed trash can," i.e., a receptacle or other product designed to prevent trash and litter from inadvertently escaping truck beds.

The competition targeted environmental, entrepreneurial, engineering, and student groups. The importance of the issue of litter was highlighted in all competition promotion. In total, six (6) video entries were submitted and reviewed. Volunteer judges for the competition were recruited based on their expertise in engineering, marketing, business development, and/or litter reduction. Winners were given cash prizes and free professional services to support the further development and bringing to market of the winning trash can prototype.

Assessment of Best Practices in Ten Other Cities

During the two-year grant period, Mobile Baykeeper conducted a review of municipal trash abatement programs and best management practices (BMPs), including non-structural, structural, and regulatory measures using comparably sized cities throughout the United States. The 10 primary cities selected were Huntsville, AL; Shreveport, LA; Durham, NC; Chattanooga, TN; Greenville, SC; Louisville, KY; Montgomery, AL; Charleston, SC; Jacksonville, FL; and Birmingham, AL. Seven (7) criteria were established and used in the assessment: Funding; Partnerships; Device Location Identification; Use of Effective Technologies; Enforcement; Data Collection; and Public Engagement.

The assessment found cities across the country have developed and begun implementing numerous litter abatement strategies and programs. These programs are aimed at providing expertise, resources, and education to help citizens end littering in their neighborhoods. Although the review was focused on gleaning innovative and effective ideas from other municipalities it should be noted that the City of Mobile and organizations working on reducing litter in the Mobile Bay area are already implementing many of these strategies at various scales throughout the region. The full assessment is presented in Appendix C.

Eslava Creek Drainage Canal

PART TWO: A Comprehensive Litter Abatement Plan for the Dog River Watershed

Purpose, Goals, and Objectives

With a purpose of improving water quality and quality of life for citizens of and visitors to Mobile by reducing litter at or near its source, the **Comprehensive Litter Abatement Plan for the Dog River Watershed** is organized into six key themes: litter reduction, monitoring, community awareness, laws and enforcement, organizational structure, and funding. Falling under each of these six themes are a single goal, objectives, suggested activities, lead organization(s), the time course for implementation, and performance measures. Time courses for implementation are classified into short-term (up to two years), medium-term (up to five years), or long term (up to 10 years).

Goal 1: Promote the introduction and use of effective litter reduction technologies and approaches.

Like Osprey's Litter Gitters, the EPA's ETAP, hydrologic models, and web-based tracking, new technologies and approaches useful in comprehensive efforts to abate watershed litter problems are constantly emerging. Any existing or emerging measures or technologies used to inform or implement litter reduction efforts should be utilized to focus limited resources towards more effective abatement of litter.

Objectives:

1.1 Reduce litter in 10 target catchments across the Dog River Watershed by at least 50 percent through the use of litter capture infrastructure in waterways.

1.2 Conduct tactical cleanups using contracted services, Gulf Corps, or Groundworks a minimum of one (1) time per year at eight (8) locations within target catchments where the area is not suitable for volunteer efforts.

1.3 Increase litter capture associated with roadways by 50 percent across the Watershed.

1.4 Promote neighborhood cleanups in 5 target areas eligible for HUD Community Development Block Grant Funding

1.5 Reduce the amount of litter entering waterways at public access points by 50 percent.

1.6 Expand recycling within the Dog River Watershed by 50 percent.

Goal 2: Establish a community litter-monitoring program to inform litter management activities.

To effectively target and measure the effectiveness of litter abatement efforts, a community litter-monitoring program with standard operating procedures should be developed to better understand the locations, types, quantities, and sources of litter being collected to facilitate accurate comparisons and assessments of success.

Objectives:

2.1 Adopt a standard litter-monitoring program to better understand the locations, types, quantities, and sources of litter being collected.

Goal 3: Improve people's awareness, knowledge, and behavior related to littering.

Lack of awareness and knowledge underlie an individual's irresponsible management of litter. The "magical" removal of litter from city streets and parking lots by an afternoon rain shower belies the reality that stormwater runoff carries cigarette butts, food wrappers, Styrofoam, plastic, and other waste down storm drains, untreated, into the waters where we fish, boat, and swim. Without understanding the dynamics of impervious surfaces, increased stormwater runoff, lack of stormwater treatment, and increases in waterborne trash, one is more likely to rely on the magic of rainfall to keep city streets relatively clean. With understanding comes acceptance of increased responsibility for the personal behaviors that drive this continuing problem. Improving people's awareness and knowledge is critical to inspiring behavior changes related to littering.

Objectives:

3.1 Increase the number and frequency of neighborhood community cleanups to reduce the waste stream at a local scale within the Dog River Watershed.

3.2 Implement a demonstration Mobile Government Complex outreach campaign targeting the reduction of single-use plastics and polystyrene.

3.3 Partner with the Mobile County Public School System, private school administrators, Groundworks Mobile, Alabama Coastal Foundation, Mobile Baykeeper, the DRCR, and Keep Mobile Beautiful to establish high school litter management programs including source reduction and litter removal on all Watershed high school campuses.

3.4 Expand business community outreach and education by 50 percent.

3.5 Continue participation in the Create a Clean Water Future campaign by assigning at least one City employee to the Coastal Alabama Stormwater Team to leverage and streamline outreach and education across coastal Alabama.

Goal 4: Improve the enactment and enforcement of laws to reduce litter.

More effective enforcement of litter laws is one of the first suggestions heard in any discussion about reducing litter, but police and City enforcement personnel face daunting and unresolved challenges. While City budgets are always constrained, some claim revenues from litter-related fines could supplement those budgets, but solutions are much more complicated than that. Key challenges to overcome include inadequate personnel, fee structures and local ordinance support.

Objectives:

4.1 Improve enforcement of existing litter-related laws within the Watershed.

4.2 Modify existing laws to increase fines.

4.3 Modify existing laws to require actions.

4.4 Pass new laws to further support litter abatement.

Goal 5: Improve responsiveness and delivery of stormwater management services related to litter abatement.

A centralized and focused organizational structure will provide efficiencies to broadly address and coordinate all the different facets of litter abatement. More streamlined service delivery from street sweeping to data collection to complaint resolution, will ensure optimum performance by those implementing it and avoid duplication of efforts, miscommunication, and waste.

Objective:

5.1 Expand the Litter, Trash, and Garbage Division of the City's organizational structure.

Goal 6: Establish a dedicated funding mechanism to ensure consistent implementation of litter abatement strategies.

A consistent challenge to meet each of the goals of this **Comprehensive Litter Abatement Plan for the Dog River Watershed** is securing sustainable and adequate funding to support its objectives and suggested activities. Establishing dedicated funding to support implementation of these strategies is necessary if the previous five goals are to be achieved. Supporting litter reduction efforts, monitoring to guide those efforts and measure success, educating and engaging the community, supporting effective enforcement, and sustaining the organized human infrastructure to undertake these Plan components will require increased investment by the City and its taxpayers.

Objectives:

6.1 Assess expenditures and funding sources related to current litter abatement efforts to inform development of a long-term financing strategy.

6.2 Work with the City Council to establish an annual litter abatement capital budget consisting of revenue generated from assessments of fees and other sources versus costs.

6.3 Establish a funded project to address litter in and around homeless encampments and known “hangouts” within the Dog River Watershed.

6.4 Invest HUD Community Development Block Grant funds in low and moderate income areas as an interim assistance measure where emergency conditions threaten the public health and safety in order to alleviate the threatening conditions

Conclusion

With a purpose of improving water quality and quality of life for citizens of and visitors to Mobile by reducing litter at or near its source, the **Comprehensive Litter Abatement Plan for the Dog River Watershed** strives to provide the City of Mobile with a path forward for litter reduction, monitoring, community awareness, laws, organizational structure, and funding. DRCR’s mission is to improve the water quality of and access to the Dog River Watershed and its tributaries. As an organization focused on the abatement of litter in these waterways, we look forward to working with the City of Mobile and other organizations to implement this Plan and effect positive change in our overall quality of life. As we say, “It’s our river, keep it clean.”

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Goal 1: Promote the introduction and use of effective litter reduction technologies and approaches.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 1: Promote the introduction and use of effective litter reduction technologies and approaches.						
Objective 1.1	Reduce litter in 10 target catchments across the Dog River Watershed by at least 50 percent through the use of **litter capture infrastructure in waterways.**	City of Mobile	X	X	X	Lbs. of trash removed from target catchments
Activities	1. **Maintain Litter Gitters** at the following target catchment locations:					
	LG1- Eslava Creek at Emogene St. (Target Catchment 4)		X	X	X	
	LG2- Eslava Creek at Sage Ave. (Target Catchment 4)		X	X	X	
	LG3- Bolton Branch at Navco Dr. (Target Catchments 6, 7)		X	X	X	
	LG4- Moore Creek at Halls Mill Rd. (Target Catchment 8)		X	X	X	
	LG5- Montlimar Creek at Michael Blvd. (Target Catchment 5)		X	X	X	
	LG6- Moore Creek at Michael Blvd. (South of Target Catchment 5)		X	X	X	
	2. **Maintain Bandalong Trash Trap** at current location:					
	Eslava and McVay (Southeast of Target Catchments 6,7)		X	X	X	
	3. Install and assess Litter Gitter performance at this new location:					
	LG7 (NEW)- Hwy 90 and Business Parkway (Target Catchment 9)		X			
	4. **Continue** operation of **in-water litter removal** in all navigable Dog River waterways.		X	X	X	
Objective 1.2	Conduct **tactical cleanups using contracted services, Gulf Corps, or Groundworks a minimum of one (1) time per year at eight (8) locations** within target catchments where the area is not suitable for volunteer efforts. Examples of such locations are:	City of Mobile, Gulf Corps, Groundworks	X	X	X	Lbs. of trash removed from target catchments
Activities	1. Conduct **tactical cleanups** at the following locations:					
	Creekwood Drive at Second Creek (Target Catchment 2)		X	X	X	
	Airport Blvd. at Milkhouse Creek (Target Catchment 1)		X	X	X	
	Carol Plantation Rd. at Rabbit Creek (Target Catchment 10)		X	X	X	
	Grelot Road at UT-Milkhouse Creek (Target Catchment 3)		X	X	X	
	Coca Cola Road at UT- Rattlesnake Bayou (Target Catchment 9)		X	X	X	
	2. Partner with local homeless outreach organizations like Housing First to develop and assess a litter program to facilitate proper disposal of litter in and around homeless encampments. (Target Catchment 9)			X	X	
Objective 1.3	**Increase litter capture associated with roadways** by 50 percent across the Watershed.	City of Mobile		X	X	Lbs. of trash removed from target catchments
Activities	1. **Hire** three (3) additional drivers to operate existing fleet of **street sweepers on** a minimum bi-monthly basis.		X	X		
	2. **Increase** frequency of sweeping with focus on bridge/stream crossings. Include one identified hot-spot location per Council district.		X	X		

Goal 1: Promote the introduction and use of effective litter reduction technologies and approaches.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 1: Promote the introduction and use of effective litter reduction technologies and approaches.						
	3. **Increase** the number of **marine debris interceptors** in those target catchments without Litter Gitters and where there is a high concentration of commercial activity.			X	X	
	Target Catchment 1			X	X	
	Target Catchment 2			X	X	
	Target Catchment 3			X	X	
Objective 1.4	**Promote neighborhood cleanups** in five target areas eligible for HUD Community Development Block Grant Funding including:	City of Mobile				Lbs. of trash removed from target catchments
Activities:	1. Conduct quarterly community cleanups to include the following neighborhoods:					
	Morningside community (Target Catchment 7)		X	X	X	
	Mertz community (Target Catchment 6)		X	X	X	
	McVay community (Target Catchment 7)		X	X	X	
	Maysville community (Southeast of Target Catchments 6, 7)		X	X	X	
Objective 1.5	**Reduce** the amount of **litter entering waterways at public access points** by 50 percent.	City of Mobile, Nonprofits, Community/Civic Groups				Lbs. of trash removed from target catchments
	1. Partner with local organizations to provide, maintain and promote trash, cigarette butt, and fishing line disposal receptacles at all water access points.		X	X	X	
Objective 1.6	**Expand recycling** within the Dog River Watershed by 50 percent.	City of Mobile, Goodwill Easter Seals, KMB	X	X	X	Lbs. of trash removed from target catchments
	1. Increase the number of recycle drop-off centers to include at least one center per sub watershed.			X	X	
	2. Work to establish a weekly curbside recycling program within the Dog River Watershed to encourage participation.		X	X	X	

Goal 2: Establish a community litter-monitoring program to inform litter management activities.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 2: Establish a community litter-monitoring program to inform litter management activities.						
Objective 2.1	Adopt a standard operating procedures (SOP) for a **litter-monitoring program** to better understand the locations, types, quantities, and sources of litter being collected.	City of Mobile	X	X	X	Data system for collecting and analyzing data
Activities	1. **Review standard operating procedures annually** for quantifying amounts of litter collected through litter capture or cleanups (weight, volume, other) and update as necessary.		X	X	X	
	2. **Develop a quality assurance plan** for gathering litter related data, including data entry and management procedures.		X	X		
	3. **Promote data collection at all cleanup events** to conform with adopted SOP.		X	X	X	
	4. **Improve data collection** by training and requiring use of apps and other emerging technologies.		X	X	X	
	5. **Employ** the U.S. Environmental Protection Agency's (EPA's) **Escaped Trash Assessment Protocol (ETAP)** in not less than 10 percent of debris collected from Litter Gitters.		X	X	X	
	6. **Produce quarterly reports for dissimination** to city officials and community at large of collected data.		X	X	X	

Goal 3: Improve people's awareness, knowledge, and behavior related to littering.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 3: Improve people's awareness, knowledge, and behavior related to littering.						
Objective 3.1	**Increase** the number and frequency of **neighborhood community cleanups** to reduce the waste stream at local scale within the Dog River Watershed.	City of Mobile, Community/Civic Groups, Nonprofits	X	X	X	#, frequency, and distribution of community cleanups.
Activities	1. Actively **promote** the **Love Your Community Campaign**		X	X	X	
	2. **Promote** Community Cleanups as part of the **MLK Day of Service**		X	X	X	
	3. **Rejuvenate** the PALS **"Don't Drop it on Alabama"** Spring Cleanup		X	X	X	
	4. Work with PALS and DRCR to **establish Adopt-a-Stream/Mile** Programs with emphasis on identified hot-spot stream crossings.		X	X	X	
	5. **Maintain Coastal Clean UP Zones** at the following locations including designation of Zone Captains:		X	X	X	
	West Mobile Bay/Perch Creek		X	X	X	
	Dog River Park		X	X	X	
	Lipscomb Landing		X	X	X	

Goal 3: Improve people's awareness, knowledge, and behavior related to littering.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 3: Improve people's awareness, knowledge, and behavior related to littering.						
	6. **Educate** the community on the importance of properly securing all items in a trash can to reduce spillage during collection.		X	X	X	
Objective 3.2	**Implement** a demonstration **Mobile Government Complex outreach campaign** targeting the reduction of single use plastics and polystyrene.	City of Mobile, Mobile County	X	X	X	Quantity reduced of single use plastics and polystyrene
Activities	1. Use the work of the Green Team to develop a program for reducing waste. (Appendix F)		X	X	X	
Objective 3.3	Partner with the Mobile County Public School System, private school administrators, Groundworks Mobile, Alabama Coastal Foundation, Mobile Baykeeper, DRCR, and Keep Mobile Beautiful to **establish** a **high schoo**l **litter management program** including source reduction and litter removal on all Watershed high school campuses:	City of Mobile, MCPSS, Nonprofits	X	X	X	# of High Schools with programs
Activities	1. Establish Murphy High School Program (East of Target Catchment 4)		X	X	X	
	2. Establish Williamson High School Program (East of Target Catchment 4)		X	X	X	
	3. Establish BC Rain High School Program (South of Target Catchment 5)		X	X	X	
	4. Establish Davidson High School Program (Southeast of Target Catchments 7 & 8)		X	X	X	
	5. Private schools in the watershed.		X	X	X	
Objective 3.4	Expand **business community outreach** and education by 50 percent.	City of Mobile, Mobile Area Chamber of Commerce, Nonprofits, Private Business	X	X	X	# of businesses adopting Clean Water Future; # of businesses joining PEP
Activities	1. Partner with Partners for Environmental Progress, KMB and DRCR in expanding reach of Trash Blows Campaign.		X	X	X	
	2. Provide a monthly article for inclusion in the Mobile Area Chamber of Commerce's "Business View" to educate its members about the status of litter management activities and best practices.		X	X	X	
	3. Partner with Keep Mobile Beautiful and new and used car dealerships to include appropriately labeled litter bags in every vehicle sold.		X	X	X	
Objective 3.5	Continue participation in the **Create a Clean Water Future (CCWF) campaign** by assigning at least one City employee to the Coastal Alabama Stormwater Team to leverage and streamline outreach and education across coastal Alabama.	City of Mobile, Mobile County, MCPSS	X	X	X	# of people reach/staff trained
Activities	1. Use the MS4 video to train elected officials about stormwater management obligations.		X	X	X	
	2. Partner with Mobile County to use the public service announcements available on the CCWF website to play on Government Plaza TVs.		X	X	X	
	3. Share CCWF website educational information with Mobile County Public Schools for use on their closed circuit tv system.		X	X	X	
	4. Use the CCWF brand with all outreach campaigns such as #Canityall and Only Trash Litters, to tie the importance of litter management to protecting clean water.		X	X	X	

Goal 4: Improve the enactment and enforcement of laws to reduce litter.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 4: Improve the enactment and enforcement of laws to reduce litter.						
Objective 4.1	**Improve enforcement of existing litter-related laws** within the Watershed	City of Mobile	X	X	X	# of citations issued for violations of litter regulations.
Activities	1. **Increase** the **active enforcement of local ordinances** related to litter, including more assertive issuance of fines, by 75 percent over a one (1)-year period.		X	X		
	2. **Focus enforcement on commercial entrances and parking lots** and apply consistently across the watershed.		X	X	X	
	3. **Focus enforcement on proper containerization of commercial and rental property** dumpsters		X	X	X	
	4. **Focus enforcement on trash cans which are not correctly contained/covered**.					
Objective 4.2	**Modify existing laws to increase fines** including but not limited to:	City of Mobile	X	X	X	# of fines increased
Activities	1. Current City Code- 24-019. We recommend it be increased to $500 for first time offenders. Doubling for each subsequent offense.		X	X		
	2. Code 20-003 "Accumulated Debris". Increase from $16 to $250.		X	X		
	3. Code 32-106. Increase from $16 to $250.		X	X		
	4. Create a provision for those unable to pay fines to perform community service hours focusing on litter removal equivalent to their fine.		X	X		
Objective 4.3	**Modify existing laws to require actions** as follows:	City of mobile, MCPSS, MTA	X	X		# of laws modified
Activities	1. **Modify land use design standards to require property managers/owners to install and maintain trash recepticles** no less than 25 feet apart in all parking lots.		X			
	2. **Require trash receptacles at all public transportation sites**, including but not limited to public and school bus stops.		X	X		
	3. **Educate municipal courts** using resources available **on the CCWF website on the importance of enforcing litter laws** and appropriately increasing penalties associated with repeat offenses. (i.e. requiring community service hours in addition to fines to positively impact litter abatement efforts).		X	X	X	
Objective 4.4	**Pass new laws to further support litter abatement** as follows:	City of Mobile, Mobile County Legislative Delegation, ALDOT	X	X	X	# of laws passed
Activities	1. **Adopt local ordinance to regulate single use plastics and polystyrene** (Styrofoam food/beverage containers).		X	X		
	2. **Conduct an assessment of other similarly sized Alabama municipalities** or similiarly sized to Mobile to improve regulations on existing properties with no new development and on all new development of any size to promote a reduction in litter.		X	X		

Goal 5: Improve responsiveness and delivery of stormwater management services related to litter abatement.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 5: Improve responsiveness and delivery of stormwater management services related to litter abatement.						
Objective 5.1	**Expand the Litter, Trash and Garbage Division** of the City's organizational structure to include the following functions:	City of Mobile	X	X	X	Creation of Division
Activities	1. **311- Channel all complaints** related to litter to this division- All calls regarding the litter in the water, storm drains, streambanks, streets, parking lots, and other.		X	X	X	
	2. **Lead litter management planning and project implementation** to include:					
	Storm drainage Improvements, marking, capture, and maintenance.		X	X	X	
	Installation and management of litter capture devices.		X	X	X	
	Outreach and education to all City staff and public related to litter abatement and behavior change.		X	X	X	
	3. **Centralize all litter, trash, garbage collection within this division** to include **ALL** City assets (i.e., Parks & Special Events, Public Facilities, etc)		X	X		
	Coordinate litter capture activities to better align efforts for litter removal among trash pickers, sweepers, mowers, and garbage and trash trucks.		X	X	X	
	Equip all City fleets operating in the Dog River Watershed with **litter capture devices.** (i.e. truck bed trash can, trash bags)		X	X		
	4. **Establish an Enforcement function within the Division** focused specifically on litter related regulations and complaints to include a **minimum of three (3) additional officers.** (one officer for each subwatershed-Upper, Lower, Halls Mill)		X	X	X	
	Create an **administrative position to expedite** the resolution of complaints or violations.		X	X		
	Develop **training program for enforcement officers and all City staff** to improve their understanding of the municipal code related to litter issues and their awareness of the resources available through CCWF campaign.		X	X		
	5. **Improve communication of changing trash and garbage collection routes** and activities via use of automated calling to affected areas.		X	X	X	

Goal 6: Establish a dedicated funding mechanism to ensure consistent implementation of litter abatement strategies.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 6: Establish a dedicated funding mechanism to ensure consistent implementation of litter abatement strategies.						
Objective 6.1	Assess **expenditures and funding sources related to current litter abatement efforts** to inform development of a long-term financing strategy.	City of Mobile	X	X	X	Specific funding for litter abatement activities.
Activities	1. **Determine current expenditures associated with litter abatement** inside the Dog River Watershed including but not limited to:		X			
	Cost of **in-water** litter removal.		X			
	Cost of **Litter Gitters.** (installation and maintanance)		X			
	Cost of operating **Litter Crew.** (manpower and supplies)		X			
	Cost of **litter collection prior to mowing.**		X			
	Cost of maintaining **Marine Debris Interceptors.**		X			
	Cost associated with operation of **Vactor trucks** used to clean litter containing storm drains.		X			
	Cost of proper **disposal** of litter.					
	Cost of litter reduction **education materials.**		X			
	Cost of **Cleanup materials.**		X			
	Cost of litter abatement within **Municipal Enforcement** including officers dedicated to litter abatement, 311 operators and police.		X			
	Cost of **personnel** needed to pursue litter cases in Municipal Court.		X			
	Cost of litter abatement activities within the **Park and Recreation** Department**.**		X			
	Cost of litter abatement activities within the **Special Events** department.		X			
	Cost of litter abatement activities at City operated **golf courses.**		X			
	Cost of litter abatement activites at **Mobile Tennis Center.**		X			
	2. **Determine current revenue associated with litter** abatement inside the Dog River Watershed to inform development of longterm financing strategy.		X			
	Revenue from **fees.**		X			
	Revenue from **recycle material sales**.		X			

Goal 6: Establish a dedicated funding mechanism to ensure consistent implementation of litter abatement strategies.

Goals/Objectives	Activities	Lead	Short (2 yr)	Medium (5 yr)	Long (10 yr)	Performance Measures
Goal 6: Establish a dedicated funding mechanism to ensure consistent implementation of litter abatement strategies.						
Objective 6.2	**Work with the City Council to establish an annual litter abatement capital budget** consisting of revenue generated from assessments of fees and other sources versus costs.	City of Mobile	X	X	X	Specific funding for litter abatement activities.
Activities	1. **Establish** annual **CIP appropriation** for litter abatement and include in annual budget.		X			
	2. Work with Mobile City Council to **establish mechanism to use a percentage of sales tax** to fund litter abatement programs.		X	X		
	3. Conduct **research to determine if a plastic bag fee would be more beneficial than a ban** where fee proceeds are included in annual Litter Abatement operating fund.		X	X		
	4. Work with Mobile City Council to **create a garbage fee** with funds added to annual Litter Abatement budget.		X	X	X	
	5. **Encourage partnerships** with local businesses and nonprofits for "other sources" of funding related to project-specific grants.		X	X	X	
Objective 6.3	**Establish a funded project** to address litter in and around **homeless encampments** and known "hangouts" within the Dog River Watershed.	City of Mobile, Nonprofits	X	X	X	Specific funding for litter abatement activities.
Activities	1. **Partner with local nonprofits** like Housing First and others to provide maintained trash receptacles.		X	X		

Bolton Branch