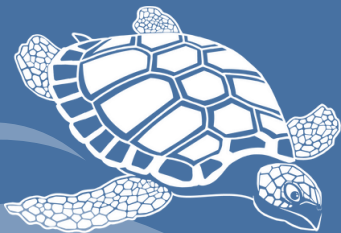


MISSISSIPPI COASTAL CLEANUP

Annual Program Summary

2021



MISSISSIPPI COASTAL CLEANUP PROGRAM

The **Mississippi Coastal Cleanup Program (MSCCP)** is a non-profit educational program that promotes the conservation of the local marine environment by facilitating active stewardship within coastal Mississippi. The MSCCP mission is to prevent and remove litter from the coastal environment through **education, outreach, research, and cleanup events**. The MSCCP organizes monthly beach cleanups, provides in-class presentations, and hosts outreach booths at multiple public events throughout the year. By integrating the latest research, the MSCCP trains community leaders and fellow stewards on ways to incorporate best litter-management practices into their ongoing programs. This program not only promotes active stewardship but also enables **long-lasting education** and outreach and other toolkits that empower communities to make environmentally and economically sound decisions regarding litter and marine debris.

Marine debris is defined as any manmade material that is intentionally or unintentionally, directly or indirectly disposed of or abandoned into our marine environment, according to the **NOAA Marine Debris Program**. Marine debris includes everyday items we toss in the trash, litter on sidewalks, parking lots, and streets that is washed or blown away by gulf winds, and even larger objects, such as fishing nets, construction materials, and derelict boats. These items persist in the environment where they can be extremely harmful to wildlife on land, in the air, and in water.

ROCKSTAR VOLUNTEERS!

Thousands of volunteers participate in cleanups year-round to remove trash and debris from the Mississippi Gulf Coast beaches and waterways.

In 2021, volunteers removed nearly 12,000 pounds of litter!



Military and civilian volunteers from NAVOCEANO clean up the beach near Jones Park in Gulfport, MS.

MISSISSIPPI COASTAL CLEANUP PROGRAM

During Mississippi Coastal Cleanup Program events, volunteers are required to **collect data** on the different types and how much trash is collected. Unsurprisingly, **single-use plastic** items are the most common materials collected on the beaches. Some of the commonly found **plastic** trash items include **cigarette butts, food wrappers, packaging, bottle caps, and beverage bottles**. Plastic is a manmade material that our earth cannot naturally break down. Plastic items persist in the environment and eventually break up into smaller and smaller pieces becoming what we know as **microplastics**. Microplastics are plastic fiber, fragment, bead, and film pieces smaller than 5mm that wreak havoc on the environment as they are commonly mistaken for food by marine life and ingested. **Toxins and pollutants** in the water can bind to microplastics impacting the animals ingesting the pieces on a physiological level. Studies have shown that microplastics have entered our food chain posing not just detrimental impacts to animal health, but possibly to human health as well. **Uh oh...**

In general, trash we toss away has four fates – it's taken to a landfill, recycled, incinerated, or ends up in the environment. Recycling is **expensive and cumbersome** with separate methods to pick up the intended materials, remove contamination, and sort the different types of materials. Due to the degradation of plastic after 1-2 meltdowns, it's cheaper to toss plastics than it is to recycle them. **Recycling plastic to combat plastic pollution is not a viable option**, and further emphasizes the importance to reduce plastic use from the get-go.



MISSISSIPPI COASTAL CLEANUP PROGRAM



We know litter and plastic pollution is a problem, and providing actionable opportunities for the public to get involved with reducing plastic pollution is key. Luckily, there are programs, initiatives, and research taking place within and in partnership with the MSCCP. The **Derelict Trap Reward Program** focuses on how abandoned crab traps impact local shrimpers in the water of the Mississippi Sound. The **Mississippi Inland Cleanup Program (MSICP)** is an expansion program of the MSCCP to extend litter awareness efforts inland.

The MSCCP has also had the privilege of working with other projects and organizations that share the same mission. The **Plastic Free Gulf Coast Project** and **Osprey Initiative** both collect data to find sources of plastic pollution and sustainable solutions. Keep reading to see what these amazing programs were up to in 2021!

REQUEST A BIN

The MSCCP Request a Bin initiative encourages volunteers to conduct their very own small-scale cleanup events. The bins provided include supplies for a successful cleanup including trash bags, gloves of various sizes, hand sanitizer, first aid kit, buckets, trash grabbers, and data collection materials (data cards & clipboards). The MSCCP Team also provides guidance and training to help volunteers efficiently lead their own cleanup.

More than 400 volunteers participated in this initiative in 2021 removing about 1,745 pounds of trash consisting almost entirely of single-use plastic!

CLEANUP SUMMARY

Check out the different types & amounts of debris found during 2021 by the
Mississippi Coastal Cleanup Program!

COMMONLY FOUND ITEMS:

Cigarette butts	16,042	Beverage bottles (plastic)	2,476
Food wrappers	5,710	Beverage bottles (glass)	825
Take out containers (plastic)	737	Beverage cans	1,583
Take out containers (foam)	455	Grocery bags (plastic)	1,346
Bottle caps (plastic)	3,572	Other plastic bags	1,559
Bottle caps (metal)	1,461	Paper bags	606
Lids (plastic)	1,065	Cups & plates (paper)	408
Straws/stirrers	2,076	Cups & plates (plastic)	642
Forks, knives, spoons	576	Cups & plates (foam)	797

PACKAGING MATERIALS:

6-pack holders	108
Strapping bands	1,641
Tobacco packaging/wrap	285
Other plastic/foam packaging	257
Other plastic bottles (oil, bleach, etc.)	823

FISHING GEAR:

Fishing buoys, pots, and traps	687
Fishing nets & pieces	226
Fishing line (1 yard = 1 piece)	777
Rope (1 yard = 1 piece)	216

TINY TRASH:

Foam pieces	3,499
Glass pieces	3,032
Plastic pieces	10,622

PERSONAL HYGIENE:

Condoms	58
Diapers	69
Syringes	32
Tampons/tampon applicators	48
Gloves & masks (PPE)	217
Clothing & shoes	185

OTHER TRASH:

Appliances (fridge, washer, etc.)	25
Balloons	438
Cigar Tips	1,379
Cigarette lighters	261
e-Cigarette waste	28
Construction materials	1,628
Fireworks	8,210
Tires	50
Other	1,844

2021 CLEANUP SUMMARY:

Number of bags filled	485
Weight of trash collected (pounds)	11,780
Distance cleaned (miles)	44
Number of volunteers	1,294

DERELICT TRAP REWARD PROGRAM



Mississippi State University Extension Service and Mississippi Commercial Fisheries United (MSCFU) have continued their partnership to remove derelict crab traps for a third consecutive year.

Derelict crab traps, those that have been lost or abandoned by fishermen, create a variety of economic and environmental issues. The **Derelict Trap Reward Program** invites commercial shrimpers to enroll in the incentive program. The only requirement to participate in this program is an active commercial shrimping license. Shrimpers may sign up by contacting either MSU or MSCFU and the registration documents can be found on our website coastal.msstate.edu/crab-traps.

The program has **44 active participants**, and the project team continuously recruits new fishermen. As commercial shrimpers encounter derelict traps at sea, they remove entangled traps from their trawls and deposit them at designated harbors. This year, fishermen have **removed 570 derelict crab traps** with an estimated weight of 4,000 pounds. Since its inception in 2019, nearly 3,000 traps have been removed from the Mississippi Sound and the surrounding waters.

RECYCLING TRAPS

Derelict traps that have been collected by commercial shrimpers are recycled at a nearby scrapyards. The money produced from recycling traps gets cycled back into the program to pay out the incentive. Derelict traps that are in fair condition are returned to the respective owners.



DERELICT TRAP REWARD PROGRAM

In addition to the **Derelict Trap Reward Program**, a subset of participating shrimpers were selected to collect additional marine debris data (i.e., photos and logbook documentation of every marine debris occurrence) during the 2020 shrimping season (June through December).

The data results indicate that shrimpers encounter marine debris in nearly 20% of all tows, and **derelict crab traps make up 79%** of all marine debris encountered by shrimpers. Because of these encounters, **shrimpers lose an average of 4.61 minutes and 4.4 pounds of shrimp** with an additional average of \$1.30 spent on damaged gear per tow due to encounters with marine debris. These losses lead to the entire fleet of commercial shrimpers **losing nearly \$800,000 annually due to marine debris**. The results of the incentive program and data collection will help create cleaner coastal waters and minimize the economic impacts marine debris has on the commercial shrimping industry.



Derelict Trap
Reward Program

STAY CONNECTED

✉ msumarinedebris@gmail.com



MISSISSIPPI INLAND CLEANUP PROGRAM




Volunteers with the MSICP bag trash collected during the Petal River Park Cleanup in Petal, MS.

In 2021, the **Mississippi Inland Cleanup Program (MSICP)** officially kicked off its community cleanup events. Spanning over 6 southeastern counties, 356 registered volunteers removed **2,268 lbs. of trash** from the natural environment. Top litter items removed from these inland communities include **cigarette butts, food wrappers, plastic beverage bottles, and tiny plastic pieces**. An estimated 15,374 individual pieces of litter were collectively removed! Aside from organizing cleanup events, the MSICP also visited K-12 classrooms, was invited to give presentations, was awarded mission-supporting grants, and made it on the local news several times. This program is bringing awareness to the importance of removing litter inland before it has the chance to end up in the watershed, inevitably making its way to the coast.



The MSICP continues to organize bigger and better outreach into 2022! You can get more information on this program, and learn how to participate in upcoming events, at www.nolittermovement.com

STAY CONNECTED.....

-  mississippiinlandcleanup
-  msinlandcleanup
-  msinlandcleanup



PLASTIC FREE GULF COAST



In collaboration with Mississippi Coastal and Inland Cleanup programs **Plastic Free Gulf Coast** is **documenting brand data** on the branded plastics gathered during cleanups. The data collected during plastic brand audits is used to identify the **top plastic polluters** in our cleanup areas and can identify possible interventions to reduce plastic production and use before it becomes waste and ends up in our waterways and ecosystems. During our last cleanup, out of the 310 lbs of litter collected we documented 31lbs of branded plastic with over **87% of that plastic being single-use packaging in the form of chip bags and drink bottles** produced by Frito Lay and Coca-Cola respectively.

Learn more about plastic brand audits @
www.breakfreefromplastic.org

WHY IT MATTERS

As consumers, avoiding plastic products is near impossible, and no matter how hard we try to avoid it, recycle it, reuse it - it will never be enough. Companies are producing and distributing single-use plastic faster than our cleanup efforts can ever keep up with. Production of unmanageable single-use plastic needs to stop at its source if we want any chance at turning the tides on this pollution.



"If your bathroom sink is overflowing, you don't reach for the mop to soak up the overflow, you turn off the tap."



PLASTIC FREE GULF COAST



During the summer of 2021 Plastic Free Gulf Coast worked with the Maritime and Seafood Museum Sea and Sail Summer camps to do **Lunch Plastic Audits**. Students separated their lunch trash into these 4 bins and then we spent time documenting the brands, weighing the plastic and food waste, and learning about **plastic pollution and plastic alternatives**.

Our first class consisted of 38 6-8 year olds and we had 2.5 lbs of single-use plastic and 5 lbs of food waste that came from those lunches. These numbers were similar for both classes each day for 6 weeks. **Yikes!**

[f plasticfreegulfcoast](#)
[@ plasticfreegulfcoast](#)
[plasticfreegulfcoast.com](#)



For more plastic free swap ideas, visit the Plastic Free Gulf Coast Website!

TIPS FOR PLASTIC FREE SWAPS

Start small. Pick one plastic swap to begin with.

Combine a new habit with an existing habit. It's a habit for many of us to brush our teeth and wash our hair. Swap your plastic toothbrush for a bamboo one or swap your bottle shampoo with a shampoo bar.

Stay consistent. Starting a new habit is hard and takes time! If you continue to do something, every day - it gets easier. Keep going!

Keep it simple. It doesn't have to be something crazy like clearing out your house of all the single-use plastic items. Use them as you need and replace them with a sustainable option, like glass food containers!

Treat yourself. Many of us are more willing to do the hard thing if there is an incentive. Not only does being more mindful of your plastic use help the planet, but it makes enjoying that treat of choice, so much sweeter.



PLASTIC FREE GULF COAST



Volunteers search for nurdles in the sand and wrack line on the beach near Jones Park in Gulfport, MS.

Nurdles are considered a primary microplastic meaning they are purposely made microplastics and come in thousands of different resins.

Nurdles are the basis for all the plastic products we consume. According to Nurdle Patrol, approximately 1,500 nurdles are needed to make 1 single-use water bottle. Nurdles are washing up on beaches across the globe and are considered one the biggest **micropollutants** in the ocean. This is detrimental as nurdles are often mistaken for food by shorebirds, fish, and other amazing wildlife.

Check out **Nurdle Patrol** to learn more about nurdles @ <https://nurdlepatrol.org/>

MONTHLY NURDLE PATROLS!

Plastic Free Gulf Coast hosts monthly Nurdle Patrols and reports data to the main Nurdle Patrol database at Mission-Aransas National Estuarine Research Reserve. Come and join us and be part of citizen data collection that is raising awareness about Nurdles and adding Mississippi beaches to the national and international databases.

Monthly Nurdle Patrols
@ Jones Park East Beach
9 a.m. to 10 a.m.

NURDLE!



January 15 - February 12 - March 12
April 9 - May 14 - June 4

Please email Elizabeth with any questions:
e.engebretson@msstate.edu

IN-STREAM FLOATING LITTER REMOVAL

In 2021, in partnership with **Osprey Initiative**, six Litter Gitters were installed in coastal Mississippi! A **Litter Gitter** is a tactical in-stream litter collection device used to intercept floating litter from storm-water runoff. They are cleaned out by the Osprey crew a minimum of twice a month and after major rain events.

So far the coastal Mississippi Litter Gitters have collected a total of **224 lbs** of which 56 lbs were recycled. Funding for these projects comes from an EPA Trash Free Waters Grant and the Mississippi Department of Environmental Quality.

CHECK 'EM OUT!

You can check out these Mississippi Litter Gitters in action in the following areas:



Keegan Bayou - Biloxi, MS
Auguste Bayou - Biloxi, MS
Chicot Bayou - Pascagoula, MS
Brickyard Bayou - Gulfport, MS
Johnson Bayou - Long Beach, MS
Magnolia Bayou - Bay St. Louis, MS



 ospreyinitiative
 ospreyinitiative
www.osprey.world



Litter Gitter in a waterway awaiting floating litter.

RESEARCH PROJECTS

In addition to education and outreach events, the Mississippi Coastal Cleanup Program uses research to gather information to better serve the local community.

Check out the different research projects taking place!

Effect of training level and demographics on quality of citizen science collected litter data.

Citizen science has evolved from just a means to connect local communities to scientific research, to being actively used in a wide range of research efforts. There are many benefits to citizen science, but several perceived limitations. One limitation is citizen science data is often viewed as inferior or unusable by the broader science community. This stigma associated with citizen science data can often be attributed to a lack of data validation by trained professionals across user groups. One of the main hindrances to the usability of citizen science data is the inherently different levels of background knowledge and training levels across participants. To understand this usability of collected data, it will be determined if age, gender, education, training level, and other socioeconomic variables influence the accuracy of citizen science collected data through both aqueous microplastic and shoreline debris data.



Engaging the fishing community to remove marine debris and quantify impacts.

Mississippi State University, Mississippi Coalition for Vietnamese-American Fisher Folks & Families, Mississippi Commercial Fisheries United, and the Dauphin Island Sea Lab are working together to reduce and characterize the impacts of marine debris in Mississippi Sound. This incentive program encourages fishermen to properly dispose of caught marine debris; recruits and trains commercial fishing crews to collect information on marine debris distribution; and conducts economic impact analysis of marine debris on the commercial fishing industry. This project is funded by the EPA Gulf of Mexico Program.



RESEARCH PROJECTS

The impacts of marine debris on marsh habitat.

This two-year study is being conducted within the Grand Bay National Estuarine Research Reserve to determine the impacts of marine debris on black needlerush (*Juncus roemerianus*) marsh habitat. Two debris types (wired crab pots and solid PVC sheets) have been deployed within the marsh and will remain there for varying periods of time. Vegetation density, canopy height, canopy cover, elevation, and sediment grain size are being monitored to assess changes to the marsh throughout the study. At the conclusion, all debris will be removed and a subset of plots will be replanted. Recovery will be monitored between the replanted plots and those left to recover naturally. This study will provide relevant information for prioritization of debris cleanup in the aftermath of disturbances as well as to determine the need for restoration efforts.



Watershed Characteristics and Anthropogenic Litter – what's the connection?

This project will utilize a network of over 65 Litter Gitters, an instream litter collection device, to determine how watershed characteristics impact floating anthropogenic litter loading rates in streams. Four categories of watershed characteristics will be analyzed: land use, rainfall totals, hydrologic classification, and demographics. These characteristics will be compared to data collected from the Litter Gitters including collection totals and Escaped Trash Assessment Protocol (ETAP) profiles.



THE TEAM



Dr. Eric Sparks
MSCCP Lead



Mandy Sartain
MSCCP Coordinator



Jessi James
MSICP Coordinator



Alyssa Rodolfich
DTRP Coordinator



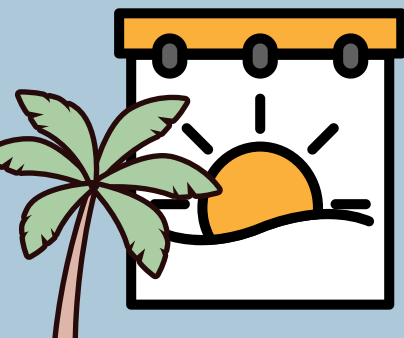
Keith Chenier
DTRP Coordinator



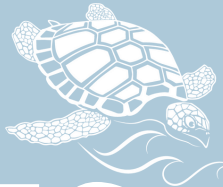
Ellie Mallon
Extension Program
Assistant



Elizabeth Englebretson
Plastic Free Gulf
Coast Coordinator



2022 EVENTS



January

22 Jones Park East Beach
Gulfport, MS.
8:30 a.m. to 10 a.m.

February

19 Popp's Ferry Causeway
Biloxi, MS.
8:30 a.m. to 10 a.m.

March

19 Point Park
Pascagoula, MS.
8:30 a.m. to 10 a.m.

April

2 Deer Island Cleanup
Biloxi, MS.
8:30 a.m. to 12 p.m.

23 I.G. Levy Memorial Park
Pascagoula, MS.
8:30 a.m. to 10 a.m.

May

21 Lighthouse Park
Pascagoula, MS.
8:30 a.m. to 10 a.m.

June

11 World Ocean Day Beach
Cleanup @ Ken Combs Pier
Gulfport, MS.
9:00 a.m. to 11 a.m.

18 Biloxi Beach Boardwalk
Biloxi, MS.
8:30 a.m. to 10 a.m.

July

9 Star-Spangled Cleanup
Various Locations, MS
8:00 a.m. to 11 a.m.

23 Biloxi Lighthouse
Biloxi, MS.
8:30 a.m. to 10 a.m.

August

20 Washington Street Pier
& Boat Launch
Bay St. Louis, MS.
8:30 a.m. to 10 a.m.

September

17 Long Beach Harbor
Long Beach, MS.
8:30 a.m. to 10 a.m.

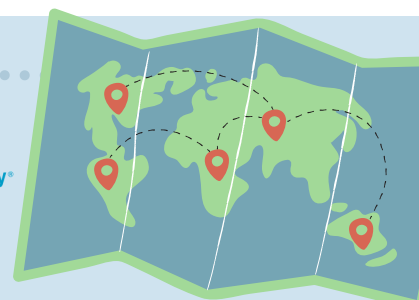
October

ANNUAL MISSISSIPPI COASTAL CLEANUP Saturday, October 15th, 2022

Multiple cleanup locations across the Mississippi Gulf Coast!

8 a.m. to 12 p.m.

This event is part of the Ocean Conservancy International Coastal Cleanup.



THANK YOU TO OUR 2021 SPONSORS!



THALASSAS



& PARTNERS



WANT TO BE A SPONSOR?

We cannot undertake these activities without donations from our great sponsors. If you would like to support the MSCCP events and its associated educational programming, please consider donating to our cause.

For more information please visit

<http://coastalcleanup.extension.msstate.edu/donate>

STAY CONNECTED

The best way to stay updated and learn about events hosted by the Mississippi Coastal Cleanup Program is through our social media. All events are listed on our website, and announcements for events are released on social media as event dates near and registrations open.

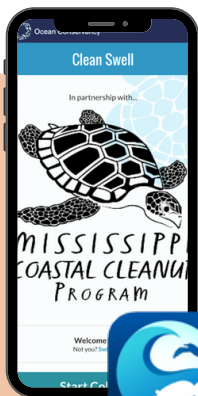
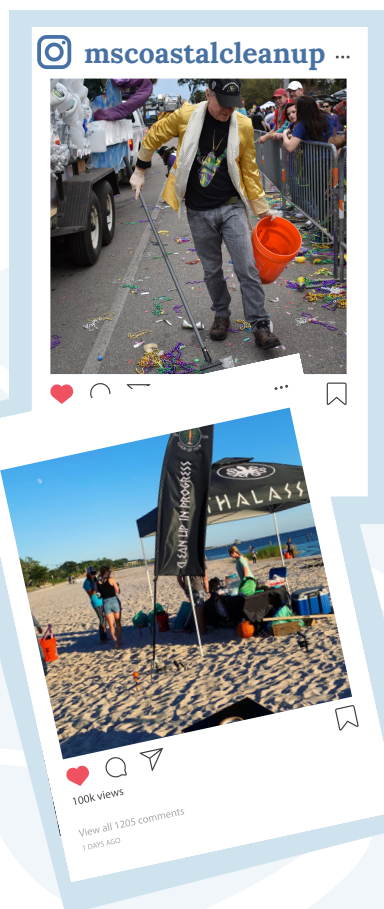
INTERESTED IN LEADING YOUR OWN CLEANUP?



Check out this short and sweet video on our YouTube to learn the basic structure of our cleanups!




FOLLOW US ON INSTAGRAM



DITCH THE PAPER.

Did you know you can collect data on your phone as you clean up? Ocean Conservancy has a very user-friendly app you can download to your iPhone or Android.

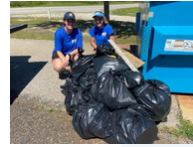
Find out more about *Clean Swell*
@ oceanconservancy.org

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Students from Ocean Springs High School used supplies provided by MSCCP to conduct a group cleanup on Front Beach in Ocean Springs, MS.



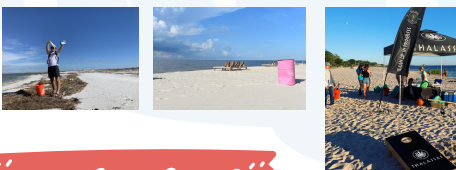
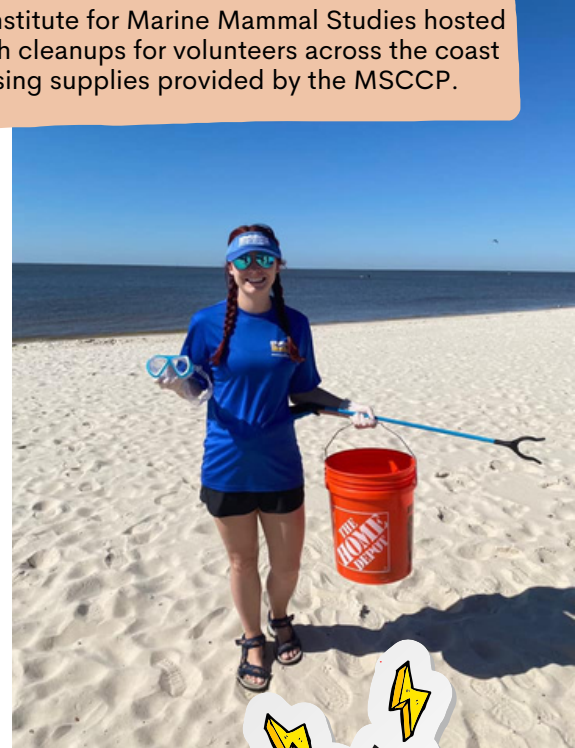
NAVOCEANO is dedicated to serving the local community and keeping our parks and beaches clean for a better tomorrow.



The Institute for Marine Mammal Studies hosted beach cleanups for volunteers across the coast using supplies provided by the MSCCP.

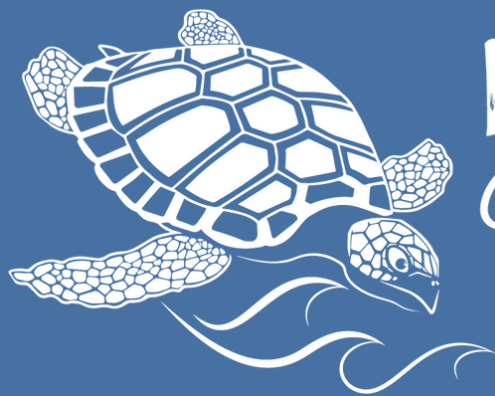


Volunteers remove litter from the water and marsh grass of Auguste Bayou in Biloxi, MS.



TAG US ON SOCIAL MEDIA!





MISSISSIPPI COASTAL CLEANUP PROGRAM

