



# 2019 Southeast Marine Debris Action Plan

June 2019



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### **Acknowledgements**

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# List of Acronyms

<b>Acronyms</b>	<b>Organization</b>
<b>ACC</b>	American Chemistry Council
<b>ADV</b>	Abandoned and derelict vessels
<b>BMPs</b>	Best management practices
<b>CD</b>	Consumer debris
<b>DFG</b>	Derelict fishing gear
<b>FEMA</b>	Federal Emergency Management Agency
<b>GA</b>	Georgia
<b>GADNR</b>	Georgia Department of Natural Resources
<b>NC</b>	North Carolina
<b>NC Coastal Reserves</b>	North Carolina Coastal Reserve & National Estuarine Research Reserve
<b>NCCF</b>	North Carolina Coastal Federation
<b>NCDEQ</b>	North Carolina Department of Environmental Quality
<b>NCWRC</b>	North Carolina Wildlife Resources Commission
<b>NERR</b>	National Estuarine Research Reserve
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>NOAA MDP</b>	National Oceanic and Atmospheric Administration Marine Debris Program
<b>NOAA NCCOS</b>	National Oceanic and Atmospheric Administration National Centers for Coastal Ocean Science
<b>POP</b>	Plastic Ocean Project, Inc.
<b>SC</b>	South Carolina
<b>SCA</b>	South Carolina Aquarium
<b>SC DHEC OCRM</b>	South Carolina Department of Health and Environmental Control Ocean and Coastal Resource Management
<b>SCDNR</b>	South Carolina Department of Natural Resources
<b>SEMDAP</b>	Southeast Marine Debris Action Plan
<b>UGA</b>	University of Georgia
<b>UNCW</b>	University of North Carolina Wilmington
<b>USCG</b>	United States Coast Guard
<b>USFWS</b>	United States Fish and Wildlife Service
<b>WHI</b>	Wildlife and habitat impacts



# Introduction

In the United States, marine debris is defined as “any persistent solid material that is manufactured or processed, directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes.” Marine debris is a growing global problem that harms wildlife, the environment, and commerce, as well as threatens navigation safety and human health.

Dedicated organizations regularly work to address the issue of marine debris in the Southeast region, which includes Georgia, North Carolina, and South Carolina, through education, prevention, removal, and research efforts. Since 2014, diverse marine debris representatives from each state, including local, state, and federal governments, nonprofits, industry, and academic institutions, have come together to develop this Southeast Marine Debris Action Plan (SEMDAP). A workshop participant list can be found in [Appendix I](#).

The workshops and plan development help to provide a road map or focused direction; prioritize achievable results; and align states with regions, and regions with the Nation. The resulting Plan celebrates the power of collective action.

## Action Plan Purpose

The purpose of the Action Plan is to address everyday marine debris and debris generated by disasters throughout Georgia, South Carolina, and North Carolina through coordinated actions within four main goals:

1. Reduce Abandoned and Derelict Vessels (ADV)
2. Reduce Consumer Debris (CD)
3. Reduce Derelict Fishing Gear (DFG)
4. Reduce Wildlife and Habitat Impacts (WHI)

## Action Plan Process

Over 95 participants have helped develop the SEMDAP, during three action planning workshops. The first workshop, held in 2014 in Charleston, South Carolina, focused on the development of the four goals and associated objectives and strategies. The second workshop was held in 2016 on Jekyll Island, Georgia. Participants split into working groups to refine strategies and develop related actions.

The final workshop, held in 2018 in Wilmington, North Carolina, facilitated finalizing strategies and actions to be included in the published SEMDAP. Workshop participants agreed to be “partners” for specific actions, meaning they volunteered to carry out, or help carry out, that particular action.

Prior to convening for the final workshop, participants responded to a voluntary questionnaire to gather information on marine debris priorities in the Southeast. Several priorities were incorporated into the Action Plan. The complete list can be found in [Appendix II](#).

# Action Plan Terms

As the issue of marine debris changes, so does this Action Plan. The SEMDAP was designed to be a living document that will be updated every three years. From 2019-2022, participants will meet annually (i.e., webinar or conference call) to report on the status of actions. The Southeast Regional Coordinator for the NOAA Marine Debris Program will coordinate this meeting. SEMDAP Working Groups will meet quarterly or biannually to discuss progress on the group's actions, and Working Group leads/co-leads will coordinate these meetings.

The National Oceanic and Atmospheric Administration Marine Debris Program (NOAA MDP) emphasizes the importance of partner contributions to similar regional and state action plans, prioritizes supporting and facilitating the creation of this Plan, and is committed to supporting it for years to come.

## Marine Debris Goals, Objectives, Strategies, and Actions

The following tables are the core of the SEMDAP. They list goals, objectives, strategies, and ongoing and future actions that contribute to achieving the Action Plan's goals.

### Goals

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Goals are the broad primary outcomes desired. Workshop participants agreed on four goals for the SEMDAP:

- Goal 1:** Reduce Abandoned and Derelict Vessels (ADV)
- Goal 2:** Reduce Consumer Debris (CD)
- Goal 3:** Reduce Derelict Fishing Gear (DFG)
- Goal 4:** Reduce Wildlife and Habitat Impacts (WHI)

### Objectives

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In the context of this Action Plan, the objectives are the measureable steps taken to achieve a strategy.

### Strategies

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Strategies define how each goal will be achieved. Typically, there are several strategies per goal.

### Actions

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Actions are the projects and activities undertaken to achieve the goals. Ongoing and future actions are listed for each goal.

Each action includes one or more **partner(s)** who volunteered to carry out or help carry out that particular action. Those actions listed under "future actions" were ones that participants felt were important to include in the Action Plan, but had no partner at the time of publication.





# Goal 1: Reduce Abandoned and Derelict Vessels in the Southeast

*Cabin cruiser displaced after Hurricane Irma, 2018 (Photo credit: GA DNR).*

## **Objective 1. Decrease the number of new ADVs in the Southeast**

### **Strategy 1.1. Work with local, state, and federal agencies to prevent ADVs**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Inventory existing ordinances	NCCF, SC DHEC OCRM
2. Distribute model ordinances for use by local governments	NCCF
3. Share resources (e.g., MyCoast ADV reporting app, state ADV listserv, etc.) to improve coordination	SC DHEC OCRM
4. Provide assistance to local governments who want to enhance ADV policies	NOAA MDP, GADNR, Town of Beaufort
5. Discuss ADV issues with general assembly representatives	Town of Beaufort, NCWRC
<b>Future Actions</b>	
1. Identify ways to minimize the delay between citation and removal of a vessel	

### **Strategy 1.2. Work with marinas to prevent ADVs**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Review Clean Marina best management practices (BMPs) for hurricane preparedness and share information with regional Clean Marina liaisons	NC Clean Marina



### ***Strategy 1.2. Work with marinas to prevent ADVs***

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
2. Provide brochures on jurisdictional boundaries, legal mooring, and anchorage areas	Town of Beaufort
<b>Future Actions</b>	
1. Develop BMPs for addressing ADVs for marinas	
2. Incorporate BMPs in active Clean Marina programs and share broadly	
3. Research the feasibility of requiring bonds for marinas using GA as a model for bottom leases, etc.	

### ***Strategy 1.3. Work with stakeholders to prevent ADVs***

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Convene working groups to engage stakeholders on decreasing ADVs in the Southeast	SC DHEC OCRM
2. Share ADV reporting processes, tools (e.g., apps), and respective state points of contact with stakeholders	SC DHEC OCRM
3. Disseminate the SEMDAP and ADV Working Group efforts to various government and environmental institutions	FEMA
<b>Future Actions</b>	
1. Engage advocacy groups to champion recommendations from working groups	

### ***Strategy 1.4. Identify legal gaps***

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Educate and assist local governments with developing ADV ordinances	ADV Working Group
<b>Future Actions</b>	
1. Meet with legal officials to discuss legal gaps	

### ***Strategy 1.5. Decrease illegal mooring and anchoring***

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Find and promote cost effective alternatives to illegal mooring	Town of Beaufort

**Strategy 1.6. Increase documentation of ADVs**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Maintain a database of ADVs throughout the state	SC DHEC OCRM, GADNR
2. Conduct an annual inventory of ADVs prior to each hurricane season	GADNR

**Objective 2. Increase the removal and proper disposal of ADVs in the Southeast**

**Strategy 2.1. Increase the efficiency of removal and opportunities for recycling or proper disposal of vessels**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Share BMPs for ADV removal for the region with local and state agencies, and contract companies likely to conduct removal operations	NOAA MDP
2. Share the <a href="#">South Carolina Clean Marina 2017 Guidebook</a> , which includes boat disposal information	SC DHEC OCRM

**Future Actions**

1. Research already established removal guidelines for each state
2. Coordinate removal efforts with municipal, state, and federal entities
3. Produce a map of existing haul-out facilities, including the contacts and capabilities of each location
4. Coordinate with landfills on waiving or reducing disposal fees
5. Identify incentives for the proper disposal of vessels
6. Incorporate disposal and incentive information into boater safety courses
7. Identify and synthesize BMPs for ADV removal and disposal for the region

**Strategy 2.2. Establish funding source(s) for ADV removal and disposal**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Seek out and apply for recurring or sustained funding and technical assistance resources	ADV Working Group
2. Share removal funding opportunities	NOAA MDP, ADV Working Group

**Future Actions**

1. Identify existing opportunities for funding, including fishing and boating license fees, that may be designated for ADV removals
2. Identify salvage opportunities that would provide funding or generate revenue

### **Objective 3. Increase ADV preparedness for disasters in the Southeast**

#### **Strategy 3.1. Identify response planning efforts where marine debris can be incorporated**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Share ADV disaster preparedness products with local authorities in the development of emergency response or hazard mitigation plans	NOAA MDP
2. Identify a timeline for the expiration of response funds	ADV Working Group
<b>Future Actions</b>	
1. Collaborate with the USCG Auxiliary to notify vessel owners	
2. Use USCG notices to mariners to provide safety information to vessel owners	
3. Conduct targeted outreach and education on vessels and storm preparedness	
4. Develop outreach materials with harbors of refuge for the Southeast	

### **Objective 4. Increase efficacy of, or establish, ADV programs in the Southeast through a collaborative meeting or series of meetings**

#### **Strategy 4.1. Convene a workshop which includes government agencies and departments from NC, SC, and GA**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Identify a planning committee and facilitator	NC Coastal Reserves
2. Plan a meeting for 2019 to help NC move forward with ADV study	NCWRC, NC Coastal Reserves
<b>Future Actions</b>	
1. Host a workshop that includes organizations/entities that can engage legislators and judicial staff	

#### **Strategy 4.2. Provide a regional platform for sharing ADV-related topics**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Conduct a regional webinar series featuring ADV Working Group projects and topics	NOAA MDP
2. Review and update state information on the <a href="#">ADV InfoHub</a>	NOAA MDP, ADV Working Group



# Goal 2: Reduce Consumer Debris in the Southeast

*Cigarettes are the most common items found during cleanups (Photo credit: Coastal Waccamaw Stormwater Education Consortium).*

## **Objective 1. Strengthen community education and outreach through creative programming and regional collaboration**

### **Strategy 1.1. Create and/or improve marine debris curricula**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Research existing outreach materials and curriculum on human health impacts from marine debris	UNCW
2. Identify and continue to develop curriculum regarding consumer debris for specific target audiences	SCA, STRAWS Film
3. Increase citizen science and field work opportunities for all audiences	UGA Marine Extension and Georgia Sea Grant

### **Strategy 1.2. Promote collaboration**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Promote collaboration within the consumer marine debris community	NOAA MDP, CD Working Group
2. Promote collaboration with external stakeholders	NOAA MDP, CD Working Group
3. Promote collaboration among all SEMDAP Working Groups	CD Working Group
4. Promote collaboration on the <a href="#">Southeast Marine Debris Collaborative Portal</a>	NOAA MDP, CD Working Group

**Strategy 1.2. Promote collaboration**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
5. Conduct a regional webinar series featuring CD Working Group projects and topics	NOAA MDP

**Strategy 1.3. Promote applications and campaigns that result in responsible consumerism**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Create a list of current available apps and campaigns	UNCW, UGA
2. Promote the current apps, databases, and campaigns available (e.g., social media, blogs, Southeast Marine Debris Collaborative Portal)	UGA, UGA Marine Extension and Georgia Sea Grant, SCA

**Objective 2. Involve the manufacturing community to increase and implement sustainable solutions**

**Strategy 2.1. Engage producers and distributors**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Bring together producers, academics, and waste management practitioners in the Southeast to discuss tangible, actionable solutions in the region	UGA

**Future Actions**

1. Leverage existing workshops and events to implement marine debris solutions
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**Objective 3. Strengthen policies and encourage and enforce legislation**

**Strategy 3.1. Strengthen policies and encourage and enforce existing legislation**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Analyze existing policies in the Southeast for effectiveness and impact on municipalities and businesses	UGA, NCCF
2. Analyze stormwater policy and wastewater discharge requirements in the Southeast	UGA, NCCF
3. Create a list of existing consumer debris-related policies in the Southeast	UGA Marine Extension and Georgia Sea Grant, SCA

**Strategy 3.1. Strengthen policies and encourage and enforce existing legislation**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
4. Identify citizen champions to promote effective marine debris-related policies in the Southeast	UGA Marine Extension and Georgia Sea Grant
5. Promote a plastic pollution awareness day in the region	UNCW, CD Working Group

**Objective 4. Improve retail/distributor level incentives for reducing consumer debris**

**Strategy 4.1. Educate and engage producers and distributors (i.e., to get retailers to participate in an ocean friendly establishment)**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Survey businesses using eco-friendly practices to understand the financial impacts	UNCW, POP, Clemson University, STRAWS Film, NCCF
2. Promote the Wrap Recycling Action Program (WRAP) and similar programs to retailers and consumers in the Southeast	ACC, Onslow County Solid Waste

**Objective 5. Reduce the quantity of consumer-related marine debris**

**Strategy 5.1. Reduce the amount of consumer-related marine debris leaking from solid waste practices**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Conduct litter surveys to determine marine debris sources	UGA, Onslow County Solid Waste
2. Identify solid waste infrastructure availability (e.g., beach bins, open bins or carts, accessibility to disposal)	Onslow County Solid Waste
3. Create a subcommittee within the community where there is an educator and waste management individual that can help craft language for cleanup programs	UGA Marine Extension and Georgia Sea Grant
4. Research material inputs and outputs and how they circulate at a community-level, with impact on leakage and waste management	UGA

**Future Actions**

- |  |
|--|
| 1. Collaborate with solid waste practitioners and enforcement officers |
|--|



**Strategy 5.2. Create awareness for cleanups**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Create a resource page for cleanups on the Southeast Marine Debris Collaborative Portal	NOAA MDP, CD Working Group
2. Compile a regional contact list of cleanup groups and partnering organizations that host cleanup events	NCCF, Onslow County Solid Waste, UGA Marine Extension and Georgia Sea Grant, SC Sea Grant
3. Establish a running list of ordinances for marine debris-related BMPs on the Southeast Marine Debris Collaborative Portal	NCCF
4. Investigate the extent and type of plastic pollution in North Carolina's coastal near and offshore environment	UNCW, POP



# Goal 3: Reduce Derelict Fishing Gear in the Southeast

*Fishermen remove derelict traps from North Carolina waters during the close of the fishery (Photo: NOAA).*

## **Objective 1. Reduce the negative impacts of derelict crab pots**

### **Strategy 1.1. Investigate alternative gear configurations in collaboration with industry**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Conduct research on alternative crab pot gear	SCDNR
<b>Future Actions</b>	
1. Collaborate with industry for the adoption of new gear designs	

### **Strategy 1.2. Increase awareness of the sources of generation and impacts of crab pots**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Provide workshop opportunities to engage industry and share information	SCDNR
2. Develop outreach materials focused on prevention methods to share with recreational boaters	SCDNR
3. Engage industry associations to share information	SCDNR
4. Leverage current practices used to reach recreational boaters (e.g., surveys, signs, etc.)	SCDNR
5. Develop and distribute outreach materials targeting recreational crabbers	NC Sea Grant

**Strategy 1.2. Increase awareness of the sources of generation and impacts of crab pots**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
6. Conduct a regional webinar series featuring DFG Working Group projects and topics	NOAA MDP
<b>Future Actions</b>	
1. Develop targeted outreach materials to mail to license holders	

**Strategy 1.3. Remove existing derelict crab pots from coastal areas**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Identify the best options for crabbers to detect derelict traps in coastal waters (e.g., Marine Debris Tracker, sonar, local knowledge)	NCCF, SCDNR
2. Prioritize areas for pot removals	NCCF, SCDNR
3. Identify funding sources for removal efforts and agencies that have authorities	NOAA MDP
4. Identify and address state-specific barriers to removal (e.g., funding, logistics, policies)	SCDNR
5. Collaborate with law enforcement agencies for removal and disposal options	SCDNR, SC DHEC OCR

**Strategy 1.4. Identify and utilize sustainable repurposing/disposal/recycling methods for recovered gear**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Create opportunities for the collection of unwanted gear	SCDNR, NCCF
<b>Future Actions</b>	
1. Conduct a needs assessment on disposal methods and recycling options	
2. Create strategies to fill the gaps identified in the needs assessment	
3. Identify and implement best practices	



## **Objective 2. Reduce the negative impacts of recreational hook-and-line fishing gear**

### **Strategy 2.1. Prevent recreational fishing gear loss**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Collaborate with marinas, fishing piers, boat launches, and tackle shops to establish gear collection programs	SCDNR
2. Develop youth programs for responsible fishing	SCDNR
3. Facilitate responsible disposal of recreational gear (Berkley Recycling, receptacles for boats)	SCDNR
4. Incorporate marine debris considerations into existing responsible fishing practices	SCDNR
5. Conduct targeted outreach at fishing tournaments and events	SCDNR
<b>Future Actions</b>	
1. Identify social marketing practices to encourage proper disposal	
2. Identify existing efforts to document wildlife impacts from recreational gear	

### **Strategy 2.2. Remove existing recreational fishing gear from the environment**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Partner with dive shops to conduct removals	NCCF, Sea Grant Programs
2. Include information about recreational fishing gear at beach cleanups	UNCW, POP, NCCF
3. Partner with marinas to share outreach materials	NCCF

## **Objective 3. Reduce the negative impacts of lost/derelict shellfish aquaculture gear**

### **Strategy 3.1. Prevent shellfish aquaculture gear loss**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Use proper siting to minimize gear loss	SC DHEC OCRM, SCDNR
2. Streamline the regulatory process	SC DHEC OCRM, SCDNR
3. Incorporate considerations for gear loss into mapping tools	UNCW, SCDNR
4. Adopt gear identification protocols (i.e., tagging gear)	SC DHEC OCRM, SCDNR
<b>Future Actions</b>	
1. Conduct economic assessments to determine the potential viability of farms in specific location	

**Strategy 3.1. Prevent shellfish aquaculture gear loss**

**Future Actions**

2. Collaborate with state agencies to develop mandatory storm plans
3. Encourage inter-state collaboration to share aquaculture BMPs

**Strategy 3.2. Remove and dispose of lost shellfish aquaculture gear**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Encourage reporting of lost gear (e.g., self-reporting)	SCDNR, NOAA MDP
2. Organize industry-led cleanups to improve public perception of aquaculture industry, following all state/federal compliance and permit requirements	SCDNR, NCCF
3. Establish bond program(s)	SC DHEC OCRM, NCDMF
<b>Future Actions</b>	
1. Collaborate with law enforcement agencies for removal efforts	
2. Identify the most sustainable disposal methods available	

**Objective 4. Reduce additional sources of contributions to DFG issues (e.g., other fisheries, etc.)**

**Strategy 4.1. Identify the sources and extent of the threats posed by other sources of DFG**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Survey manufacturers on their willingness to establish gear collection programs	NC Sea Grant
<b>Future Actions</b>	
1. Inventory gear types contributing to DFG in each state (e.g., gill nets, pound nets, trawls, longlines, channel nets)	



# Goal 4: Reduce Wildlife and Habitat Impacts from Marine Debris in the Southeast

*A Diamondback terrapin trapped in a derelict crab trap that washed ashore in South Carolina (Photo credit: Michelle Taliercio, SCDNR).*

## **Objective 1. Establish a universal protocol for reporting marine debris/wildlife interactions**

### **Strategy 1.1. Create standardized reporting components**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Establish or identify a team of “reporters” for a Reporting System Development Team (RSDT)	USFWS, NOAA NCCOS, NOAA MDP
2. Identify the current utilization and output of marine debris/wildlife interaction data	USFWS, NOAA NCCOS, NOAA MDP
3. Identify points of contact and components to be reported using a universal language to aid the needs of researchers	USFWS, NOAA NCCOS, NOAA MDP
4. Identify who is doing the research on wildlife interactions and what research is being done	USFWS, NOAA NCCOS, NOAA MDP

### **Strategy 1.2. Develop a platform for reporting marine debris/wildlife interactions**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Consult with technological experts and brainstorm options for a simple and sustainable platform interface	USFWS, SCA, SCDNR
2. Identify funding sources and institutions for housing and maintaining the data	USFWS, SCA

**Strategy 1.2. Develop a platform for reporting marine debris/wildlife interactions**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
3. Identify data restrictions/regulations and what user groups will have access to the platform	USFWS, SCA

**Strategy 1.3. Implement the reporting system**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Conduct a pilot run with key users	Georgia Sea Turtle Center
2. Develop a user manual	Georgia Sea Turtle Center, SCA
3. Provide training sessions (e.g., webinar/video training)	Georgia Sea Turtle Center

**Objective 2. Increase the effectiveness of research efforts that analyze marine debris effects on wildlife and habitat**

**Strategy 2.1. Develop an inventory of current and future research efforts**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Examine the NOAA MDP marine debris topic paper series	NOAA NCCOS
2. Engage experts on current marine debris research through the MarineDebris.Info Listserv	NOAA NCCOS
3. Visit websites for recently published research	NOAA NCCOS
4. Reach out to regional coordinators responding to wildlife stranding and/or injuries related to marine debris	NOAA NCCOS
5. Search for abstracts at recent/upcoming conferences	NOAA NCCOS, NC Sea Grant
6. Identify research needs/priorities, including other disciplines	NOAA NCCOS

**Strategy 2.2. Strengthen collaboration and communication among other academic disciplines studying marine debris**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Share information about the MarineDebris.Info Listserv with other academic partners studying marine debris	Crystal Coast Waterkeeper
2. Share wildlife impact research and information on the MarineDebris.Info Listserv	Crystal Coast Waterkeeper
3. Identify underrepresented areas of expertise (e.g., fishers, veterinarians, industry, etc.) and encourage participation in marine debris working groups	Crystal Coast Waterkeeper



**Strategy 2.2. Strengthen collaboration and communication among other academic disciplines studying marine debris**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
4. Increase opportunities for stakeholder meetings (e.g., plugging into existing conferences, symposiums, etc.)	Crystal Coast Waterkeeper
5. Identify barriers to attendance for recent workshops and gather missed information opportunities	Crystal Coast Waterkeeper
6. Engage with more diverse communities	Crystal Coast Waterkeeper
7. Inform other SEMDAP Working Groups and the marine debris community about the effects of wildlife impacts	Crystal Coast Waterkeeper, NC Sea Grant

**Strategy 2.3. Identify further opportunities for research efforts**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Present ideas and research at conferences to promote collaborative funding	All
<b>Future Actions</b>	
1. Encourage funding opportunities and requests for proposals, domestic and international, to include more diverse research priorities	
2. Identify specific research objectives	

**Objective 3. Increase the likelihood that wildlife will survive interactions with marine debris**

**Strategy 3.1. Improve wildlife patient care**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Develop an inventory of regional experts and resources for wildlife responders	NOAA NCCOS, SCA
2. Connect and leverage veterinary networks/groups to improve survivability	Georgia Sea Turtle Center
<b>Future Actions</b>	
1. Establish a survey to identify veterinarian needs	
2. Identify funding sources for veterinarians and facilities	

**Strategy 3.2. Improve wildlife response efficiency**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Connect with tourist access points (e.g., hotels, restaurants, entertainment venues, etc.) to display educational information on wildlife interactions, injuries, and survival elements	Georgia Sea Turtle Center
<b>Future Actions</b>	
1. Increase public knowledge on response points of contact and how to report	

**Objective 4. Conduct education and outreach activities that display or describe the impacts to wildlife from marine debris**

**Strategy 4.1. Bridge the communication gap between scientists, communicators, policymakers, the public, etc.**

<b>Current/Ongoing Actions</b>	<b>Partner(s)</b>
1. Develop key messages for the Southeast region	Georgia Sea Turtle Center
2. Gather and share existing outreach materials	NOAA MDP, Georgia Sea Turtle Center
3. Conduct a regional webinar series featuring WHI Working Group projects and topics	NOAA MDP
<b>Future Actions</b>	
1. Develop communications strategies	

# Appendix I: List of Participants

List of participants who attended Southeast Marine Debris Action Plan workshops.

Name	Organization	June 18-20, 2014	Jan 12-14, 2016	Nov 29-30, 2018
Alexander, Benjamin	Federal Emergency Management Agency Region IV			X
Baldwin, Larry	Crystal Coast Waterkeeper			X
Bayliss, Ladd	North Carolina Coastal Federation	X		
Bell, E.V.	South Carolina Sea Grant Consortium			X
Bennett, Charles "Buck"	Georgia Department of Natural Resources	X	X	X
Bisesi, Rachel	North Carolina Coastal Federation			X
Booker, Linda	By the Brook Productions LLC			X
Boring, Christine	Research Planning, Inc.	X		
Bowers, Angel	Beaufort County, SC			X
Briggs, Sean	South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management	X	X	X
Buendia, Elizabeth	United States Coast Guard			X
Burger, Daniel	South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management	X		
Burnetti, Jayna	United States Coast Guard			X
Camlin, Robin	South Carolina Department of Natural Resources			X
Carswell, Ben	Jekyll Island Authority	X	X	
Charron, Bree	North Carolina Coastal Federation			X
Cobb, Pamela	Beaufort County, SC			X
Conway, Jessica	NOAA Marine Debris Program/ Genwest	X	X	X
Crosby, Caitlin	Georgia Sea Turtle Center		X	
Davis, Julie	South Carolina Sea Grant Consortium	X	X	
Downing, John	United States Coast Guard		X	
Drohan, Rebecca	Crystal Coast Waterkeeper			X
Durrett, Pat	North Carolina Department of Environmental Quality, Division of Coastal Management	X		X
Early, Laura	Little St. Simons Island	X		

Name	Organization	June 18-20, 2014	Jan 12-14, 2016	Nov 29-30, 2018
Etson, Timothy	Federal Emergency Management Agency			X
Floyd, John	South Carolina Department of Natural Resources			X
Fournet, Brittany	College of Charleston		X	
Fox, Demi	NOAA Marine Debris Program/ Freestone Environmental Services			X
Fulton, Michael	National Oceanic and Atmospheric Administration National Centers for Coastal Ocean Science	X		
Gambill, Jill	University of Georgia Marine Extension and Georgia Sea Grant	X		
Garner, Kyle	Town of Beaufort, NC			X
Gillikin, Paula	North Carolina Coastal Reserve & National Estuarine Research Reserve			X
Hall, Ashley Carlson	American Chemistry Council	X		
Hammonds, Drew	North Carolina Department of Environmental Quality, Division of Waste Management			X
Harris, Stewart	American Chemistry Council			X
Hartje, Elizabeth	South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management		X	
Haseltine, Michael	North Carolina Department of Environmental Quality			X
Henry, Leah	National Oceanic and Atmospheric Administration Marine Debris Program/Genwest	X		
Higgins, Katie	Georgia Sea Turtle Center		X	
Hyland, Jeff	National Oceanic and Atmospheric Administration National Centers for Coastal Ocean Science	X		
Jambeck, Jenna	University of Georgia	X	X	
Karow, Kevin	United States Coast Guard			X
Kehoe, Christy	NOAA Marine Debris Program/ Freestone Environmental Services			X
Kerestus, Ronnie	Georgia Sea Turtle Center		X	
Kezios, Sue	University of North Carolina Wilmington MarineQuest			X
Kingsley-Smith, Peter	South Carolina Department of Natural Resources	X	X	X



Name	Organization	June 18-20, 2014	Jan 12-14, 2016	Nov 29-30, 2018
Kylstra, Pam	National Oceanic and Atmospheric Administration Office for Coastal Management	X		
LaBarba, Sam	Georgia Sea Turtle Center		X	
Laporte, Christine	University of Georgia	X		
Lasicki, Liz	National Oceanic and Atmospheric Administration Office for Coastal Management/TBG	X	X	X
Latshaw, Sarah	National Oceanic and Atmospheric Administration Marine Debris Program/IMSG	X	X	X
Lee, Richard	Skidaway Institute of Oceanography, University of Georgia	X		
Lovelace, Susan	South Carolina Sea Grant Consortium	X		
Mahdi, Asma	National Oceanic and Atmospheric Administration Marine Debris Program/IMSG		X	
Mallos, Nicholas	Ocean Conservancy	X		
Marshall, Kasey	Georgia Sea Turtle Center		X	
Martin, Jeannie Miller	Georgia Sea Turtle Center	X		
Mavis, Janelle	United States Army Corps of Engineers			X
May, Lisa	National Oceanic and Atmospheric Administration National Centers for Coastal Ocean Science	X		
McFee, Wayne	National Oceanic and Atmospheric Administration National Centers for Coastal Ocean Science	X		X
Monday, Jeremy	Coastal Carolina University	X		
Monteleone, Bonnie	University of North Carolina Wilmington, Plastic Ocean Project		X	X
Moran, Will	United States Coast Guard			X
Moran, Erin	University of North Carolina Wilmington MarineQuest			X
Newton, Everette	Duke Marine Lab			X
Noble, Josh	Georgia Department of Natural Resources, Coastal Resources Division	X		
Noe, Timothy	United States Coast Guard			X
Olmi, Geno	National Oceanic and Atmospheric Administration	X		X

Name	Organization	June 18-20, 2014	Jan 12-14, 2016	Nov 29-30, 2018
Ondich, Breanna	Jekyll Island Authority Georgia Sea Turtle Center			X
Putnam, Gloria	North Carolina Sea Grant	X		X
Randolph, Wayne	National Oceanic and Atmospheric Administration Office for Coastal Management/TBG			X
Rider, Lisa	Onslow Solid Waste/North Carolina Marine Debris Symposium	X	X	X
Rolfe, Jason	National Oceanic and Atmospheric Administration Marine Debris Program	X	X	
Sanders, Dodie	University of Georgia Marine Extension	X	X	
Sassano, Nina	University of North Carolina Wilmington MarineQuest			X
Sawyer, Jen	Carteret County Emergency Services			X
Scales, Jennifer	City of Charleston	X		
Shaw, Trent	South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management			X
Shayne, Katherine	University of Georgia			X
Shortland, Becky	National Oceanic and Atmospheric Administration Gray's Reef National Marine Sanctuary	X		
Sirak-Schaeffer, Laura	University of North Carolina Wilmington MarineQuest			X
Smith, Katy	University of Georgia Marine Extension and Georgia Sea Grant	X	X	X
Smith, Liz	University of North Carolina Wilmington			X
Southerly, Chris	North Carolina Underwater Archaeology Branch			X
Stanton, John	United States Fish and Wildlife Service	X		X
Stone, Benjamin	South Carolina Department of Natural Resources	X		
Swanger, Lisa	Coastal Carolina University			X
Tarplee III, Bill	North Carolina Wildlife Resources Commission			X

<b>Name</b>	<b>Organization</b>	<b>June 18-20, 2014</b>	<b>Jan 12-14, 2016</b>	<b>Nov 29-30, 2018</b>
Thorvalson, Kelly	South Carolina Aquarium			X
Toline, C. Anna	National Park Service	X	X	
Tonge, Emma	National Oceanic and Atmospheric Administration Marine Debris Program/IMSG			X
Uhrin, Amy	National Oceanic and Atmospheric Administration Marine Debris Program	X	X	
Whitmire, Stefanie	Clemson University		X	X
Williams, Ray	North Carolina Department of Environmental Quality			X
Woll, Jade	University of North Carolina Wilmington MarineQuest			X
Wunderley, Andrew	Charleston Waterkeeper	X		





*Participants of the 2016 Southeast Marine Debris Action Plan workshop in Jekyll Island, GA (Photo credit: NOAA).*



*Participants of the 2018 Southeast Marine Debris Action Plan workshop in Wilmington, NC (Photo credit: NOAA).*



# Appendix II: Marine Debris Priorities Identified from Voluntary Questionnaire

## ABANDONED AND DERELICT VESSELS

### What are the main activities your organization does to address ABANDONED AND DERELICT VESSELS?

- Work with USCG to remove fuel and hazardous materials.
- Education and outreach.
- State has an Abandoned Vessel Act.
- Other than mapping them not sure what NOS does, however, a huge problem in SC.
- Enforce statute and regulation requiring owners of ADVs to remove them at their own expense. Serve as grant recipient on ADV removal efforts organizing many other state and local partners around priority projects.
- Working on an action plan for marine debris in NC.
- We helped a council of government (COG) organize an ADV stakeholder meeting in 2015. Unfortunately, the COG was not able to follow-through with leading the workgroups but a sound group of recommendations was generated at that meeting and will be a part of a forthcoming marine debris reduction plan.
- Partner with local municipality to shape harbor policy that addresses ADVs among other issues.
- Working with partners to develop a statewide strategy for reducing marine debris, including ADVs.
- Currently N/A; with additional funding, we will continue previous efforts to remove ADVs in the Charleston area as well as other coastal counties. We also are interested in working with groups to streamline policy, law enforcement, and capacity in addressing this issue.
- We have passed a Town ordinance recently that streamlined the removal of ADVs following Hurricane Florence.
- Coordinates removal of abandoned vessels with federal navigation channels.
- Mitigate pollution.
- Survey, identify, document, and notify owners. Work with the counties to categorize the equipment. Counties remove based on grant monies.
- Tag and document vessels. Try to locate owner or responsible parties and charge or insure removal. Assist in legally meeting requirements to be an abandoned vessel.
- Reimburse and mission assign eligible vessels.

### What do you see as the main priority/priorities for addressing ABANDONED AND DERELICT VESSELS for your state?

- Removing vessels from areas where they pose a threat to safety or damage habitat.
- Removal of fuel and hazardous materials. Removal of vessels run ashore.
- Prevention and funding for removal.
- Prevention. Assisting the aging fishing fleet with alternatives to abandonment.
- Sufficient funding.
- Regulation, funding to remove and timeliness of removal.
- Education and any effort to address this issue on the front end before vessels become abandoned and derelict. Coordination between agencies responsible for vessels before they become ADV.
- Developing good policy.
- Local adoption of ordinances that allow them to address the issue; some sense at the state level that this is an issue; funding to address existing ADVs; awareness among citizens and folks on that water to report potential ADVs to locals before they become grounded.
- Strengthen and/or establish new state laws that helps to prevent ADVs and allows jurisdictions to

easily respond to and/or remove ADVs; establish State funding source for removal of ADVs; establish State coordination position for marine debris (to include ADVs).

- Establishing a comprehensive stand-alone program with authority and resources to handle abandoned/derelict vessels.
- Ordinances and enforcement, as well as funding.
- Priorities:
  - More proactive efforts to educate boat owners on other options besides abandoning their vessel.
  - Streamlining capacity and knowledge across county lines for identification and enforcement of ADVs.
  - Funding for removal/salvage opportunities.
- Increasing boat owner accountability.
- Developing regulations to govern removal and disposal.
- Need State legislation to address responsibility of removal or ability to remove by local municipalities.
- Moving out of navigable waterway.
- Responsibility of the owner for the removal of an abandoned and derelict vessel.
- Facilitating the inter-agency process for getting vessels determined as abandoned and removed.
- Having the owners remove their abandoned vessel.
- Reasonable cost and legal responsibility.

#### **Major themes for main priorities for addressing ABANDONED AND DERELICT VESSELS:**

- Prevention
- Education and outreach
- Removal
- Finding funding sources for removal and disposal
- Enforcement of current laws
- New and/or improved policies/regulations on local and state level to:
  - Help prevent ADVs
  - Allow local jurisdictions to respond/remove
  - Provide funding source
  - Increase responsibility of owner for removal of ADV
- Increased agency coordination to address ADVs:
  - State position devoted to addressing marine debris
  - Inter-agency communications to more efficiently/effectively identify and remove ADVs

## **CONSUMER DEBRIS**

#### **What are the main activities your organization does to address CONSUMER DEBRIS?**

- We educate youth about the impacts of single-use items on the marine ecosystem.
- Infrastructure, prevention education, waste reduction outreach, and more.
- Education.
- Outreach and education.
- Partner with organizations to conduct litter surveys, supports infrastructure projects such as lidded trash and recycling bins, supports access to recycling, supports expansion of store drop-off for plastic film, supports technology improvements for materials recovery facilities, and other activities related to consumer debris.
- Education through school and community screenings of STRAWS film.
- Estuarine shoreline pickups and education focus.
- Outreach/Education; beach sweeps.

- Outreach and education, estuary cleanups.
- Education and collaborative outreach campaigns; service-learning cleanup activities with students.
- Promote cleanups. Also intend to raise awareness and reduction in plastic foam use.
- We design facilities to make recycling and disposal more convenient.
- Education and outreach; cleanups.
- Straw and overall single-use reduction.
- Illegal dumping prevention and enforcement. Working with local governments on Disaster Debris management.
- Education, community cleanups.
- We co-coordinate an annual Beach Sweep/River Sweep event that cleans up waterways along our coast and inland.
- Currently trying to assess the magnitude of this problem.
- Clean Marinas hold cleanups.
- We have a new Ocean Friendly Establishments Corvallis initiative co-sponsored by Plastic Ocean Project.
- Understanding loadings into estuarine systems from stormwater.
- Education, outreach, beach sweeps, more waste cans.
- Provides outreach and environmental education on wildlife conservation via multiple platforms/methods.
- Cleanups and education.
- Educational programs (composting, reducing single-use plastics, etc.).
- Teaching school children about ocean health.
- Littering campaigns and daily Law Enforcement Efforts. Covert operations.
- Litter charges.
- Litter sweeps, education of the public through outreach, in-house programs and on social media platforms, citizen science to track types of litter being found and to engage people in the process.
- Volunteer-based cleanup efforts.

**What do you see as the main priority/priorities for addressing CONSUMER DEBRIS for your state?**

- Working with industry and/or legislation to reduce/ban single-use items (plastic bags).
- Consumer and producer responsibility, developing better recycling markets for materials domestically, product design, outreach.
- Inciting behavior change, reducing disposable plastic usage.
- Addressing littering, improving recycling infrastructure and access, and providing better options for non-recycled plastics.
- More public awareness, getting marketing involved to do significant spending on creative campaigns. Funding support for education in classrooms regarding plastic waste, litter, and reduction. Corporate and plastic industry responsibility and action to produce less new plastic and use more sustainable packaging.
- Reducing single-use plastics, boater education program.
- More outreach/education to inland communities; at least locally on the coast many communities banning plastic bags/straws.
- Outreach and education, plastic and polystyrene reduction.
- Education to raise awareness and promote behavior change.
- Plastic and other bottles - need a bottle bill.
- Education and convenience.
- Education and outreach; bottle deposit.
- Involving low income participation/waste awareness.
- Increasing support from prosecutors and judges in illegal dumping enforcement cases. Increased involvement from law enforcement on illegal dumping cases.

- Education and prevention.
- Reducing the use of single-use plastics, providing proper disposal/recycling opportunities for items.
- Incremental cultural shifts to reduce debris going into our streets and waterways.
- Education.
- Improvements in waste management.
- Education and outreach and more maintained waste cans.
- Reducing/eliminating as many forms of consumer plastics as possible.
- Education and accountability of the consumer.
- Making it easier for the general public to make better decisions regarding their choices that generate debris (e.g., banning single-use plastics).
- Stop single-use plastics.
- Heavy damage assessments and fines. Education.
- Defeating bill H3529, hold businesses and plastics industry accountable for plastic they push on consumers, better and more trash receptacles, better litter laws, bans.
- Outreach and awareness.
- Environmental and safety concerns.

#### **Major themes for main priorities for addressing CONSUMER DEBRIS:**

- Increased awareness:
  - Creative educational campaigns
  - K-12 outreach and education
  - Increased outreach to inland communities
  - Increased outreach to underserved communities
  - Cultural shifts to reduce debris getting into stormwater and waterways
- Behavior change
- Address littering and illegal dumping

## **DERELICT FISHING GEAR**

#### **What are the main activities your organization does to address DERELICT FISHING GEAR?**

- We educate youth about the impacts of derelict fishing gear on marine animals/ecosystems and brainstorm/highlight local and global solutions.
- Providing infrastructure and disposal to organizations doing removal projects.
- Statewide crab pot pickup program, developing best management practices for shellfish mariculture.
- Removal.
- Annual lost fishing gear recovery project, education and outreach.
- Support NCCF efforts for crab pot cleanups.
- Cleanups.
- Fishing4plastic tournaments where we find derelict debris most readily.
- Crab pot recovery program with fishermen each winter.
- Investigate direct mortalities to migratory birds entangled in derelict fishing gear.
- Removal when feasible.
- Enforcing regulations and permit conditions to reduce the likelihood that fishing gear becomes abandoned and developing programs that put abandoned crab traps to a positive use as reef substrate.
- Identify and locate owners to address possible charges.
- Volunteer-based cleanup efforts.



**What do you see as the main priority/priorities for addressing DERELICT FISHING GEAR for your state?**

- Minimizing gear loss and increasing reporting and retrieval of lost gear.
- Prevention and removal.
- Cleanup and restoration of the sites (if necessary).
- Storm recovery for shellfish growers.
- Little to no funding for research; consensus definition of what is considered derelict gear.
- Continued funding for gear recovery.
- Crab pot loss prevention - perhaps through new technology; maybe requirements to mark pots with owner information and not just buoys (would like to know if that would help or not).
- Education.
- Crab pots.
- Increasing cost/penalties for non-compliance.
- Increasing fisherman accountability.
- Education to prevent future loss of fishing gear; improved gear devices to prevent wildlife entanglement; strict marking/labeling of gear ownership to strengthen enforcement. Grants/funding to remove existing derelict gear.
- Education and identification.
- Education and increased awareness of the mechanisms that generate derelict fishing gear, actions that can be taken to reduce this generation, highlighting the prevalence of the issue, and creating greater awareness of the negative impacts to a range of users (commercial fishermen, recreational boaters, etc.).
- Preventing the gear from being left in the waterways. Heavy damage assessments and fines.
- Better identification systems.
- On-water and underwater cleanup efforts combined with outreach and awareness.

**Major themes for main priorities for addressing DERELICT FISHING GEAR:**

- Prevention
- Education and outreach:
  - Increasing awareness in the fishing community
  - Increasing awareness of recreational boaters
- Removal/retrieval
- Gear modifications to:
  - Prevent/reduce losses
  - Help ID owner (i.e., owner information required on crab trap)
- Reporting of lost gear
- Restoration of cleanup site
- Finding funding sources for:
  - Removal
  - Retrieval/Gear Recovery
  - Research
  - Disposal
- Increased accountability
- Increase penalties for non-compliance

## **WILDLIFE AND HABITAT IMPACTS**

### **What are the main activities your organization does to address WILDLIFE AND HABITAT IMPACTS from marine debris?**

- We educate youth about the impacts of marine debris and how they can help reduce these impacts.
- Education and outreach.
- Cleanup and restoration.
- Outreach and education, community cleanups
- Our STRAWS film emphasizes how plastic detritus pollutes not only the land, but also the ocean as it makes its way into the food cycle of avian and sea creatures. We are working on an impact campaign to make screenings available for free or low cost to K-12 schools in NC.
- Litter pickups including large woody debris.
- I feel like our organization does little, or could do a lot more, addressing wildlife. Most funding opportunities are geared toward cleanup and removal. The NMS has some dedicated staff for disentanglements but by and large there seems to be little support. NCCOS Charleston has been recording incidences of wildlife impacts to marine debris for 25 years through participation in marine mammal stranding activities. NCCOS Charleston also responds locally to entanglements, though most are from commercial actively fished gear.
- Volunteer cleanups, aquaculture best management practice development, outreach and education.
- Cleanup activities.
- Marine debris cleanups; securing funding to remove medium and large objects; education and outreach; research.
- Conduct watershed, beach, and ocean cleanups.
- Illegal dumping enforcement.
- Education, community cleanups.
- We have a salt marsh restoration program that helps restore areas of salt marsh that are degraded or eroding (maybe not a direct result of marine debris, entirely...).
- Working closely with the Rachel Carson Reserve site manager to quantify marine debris on the Reserve and better understand impacts.
- Research on the potential for negative health impacts.
- Mitigation.
- Education on impacts to wildlife from marine debris; support/fund research to quantify the problem and develop new techniques to reduce impacts to wildlife; promote citizen scientists to survey beaches for dead wildlife to document impacts.
- Education and cleanups.
- Research.
- Making it easier for the general public to make better decisions regarding their choices that generate debris (e.g., banning single-use plastics).
- Our Ghost (net) Busters program takes a life size inflatable whale to schools to teach kids about derelict fishing gear and how it impacts animals and ecosystems.
- Research and law enforcement efforts. Always includes public education.
- Rescue sea turtles that are entangled in or have ingested debris.
- Wildlife Rehabilitation, wildlife education, wildlife research.

### **What do you see as the main priority/priorities for addressing WILDLIFE AND HABITAT IMPACTS from marine debris for your state?**

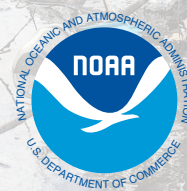
- Reduce generation of marine debris to mitigate impacts.
- Education, outreach, and enforcement.
- Awareness and enforcement.
- Microplastics entering our food web.

- Getting big polluters to more involved to be responsible and participate in cleanups. Engage fishing tournaments, foodies (if you like seafood, protect it), preparing for storm aftermath (engineering, innovation, stormwater infrastructure).
- Currently large woody debris from storm damaged docks.
- Funding of research for microplastics, disentanglement efforts.
- Outreach and education.
- Continued education and cleanup activities.
- Reduction of plastic debris; storm debris.
- Legislate against plastic bags and plastic foam, enforce the litter laws, and subsidize education on impacts on habitat due to marine debris.
- Increasing support from prosecutors and judges in illegal dumping enforcement cases. Increased involvement from law enforcement on illegal dumping cases.
- Better understand the magnitude of the problem and determine the source of the debris.
- Protecting sensitive areas.
- More education; stricter regulations to prevent the generation of future marine debris; taxes/fines to prevent future generation of marine debris.
- Accountability.
- Research.
- Education and increased awareness of the mechanisms that generate derelict fishing gear, actions that can be taken to reduce this generation, highlighting the prevalence of the issue, and creating greater awareness of the negative impacts to a range of users (commercial fishermen, recreational boaters, etc.).
- Heavy handed with damage assessments and fines.
- More information circulated about the problems wildlife and habitats have from marine debris, large scale actions to find solutions.
- Developing larger research collaborations and expanding outreach to people with barriers to education.

**Major themes for main priorities for addressing WILDLIFE AND HABITAT IMPACTS:**

- Reduce marine debris to reduce wildlife impacts
- Remove marine debris potentially causing impacts:
  - Chronic
  - Acute/Storm debris
- Education and outreach
- Increase/improve legislation and enforcement:
  - Taxes and fines
- Accountability:
  - Engaging “big polluters” to be more responsible and engaged in cleanups
- Finding sources of funding
- More research needed
- Increased collaboration





Wilbur L. Ross, Jr.  
United States Secretary of Commerce

Dr. Neil Jacobs  
Assistant Secretary of Commerce for Environmental Observation and Prediction,  
performing the duties of Under Secretary of Commerce for Oceans and Atmosphere

Nicole R. LeBoeuf  
Acting Assistant Administrator for Ocean Services  
and Coastal Zone Management

*Photo Credit: Plastic Ocean Project*