

2020 Florida Marine Debris Reduction Plan

April 2020

Photo credit: Florida Fish and Wildlife Conservation Commission

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Acknowledgements

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List of Acronyms

Acronym	Organization
ADV	Abandoned and Derelict Vessel
ВМР	Best Management Practice
CCCL	Coastal Construction Control Line Program
DFG	Derelict Fishing Gear
EPA	Environmental Protection Agency
ESI	Environmental Sensitivity Index
FAD	Fish Aggregating Device
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FKCFA	Florida Keys Commercial Fishermen's Association
FKNMS	Florida Keys National Marine Sanctuary
FLHSMV	Florida Department of Highway Safety and Motor Vehicles
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information System
NOAA MDP	National Oceanic and Atmospheric Administration Marine Debris Program
PSA	Public Service Announcement
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard

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 with wide-ranging impacts. Florida is impacted by marine debris that litters its waters and shorelines and harms ecosystems, marine life, navigation, and the economy.

Marine debris in Florida is generated from multiple sources, including land-based debris from inland and densely populated coastal areas, and ocean-based debris from commercial and recreational activities in the Atlantic and the Gulf, including boating, fisheries, and aquaculture. Moreover, coastal Florida is vulnerable to regularly occurring natural disasters, such as hurricanes, that can result in acute debris incidents. Consequently, marine debris impacting Florida comes in a wide range of forms and sizes, from microplastics to derelict vessels. To effectively address the marine debris problem in Florida, it is important to develop coordinated responses and activities among stakeholders and organizations to reduce marine debris and its impacts.

Dedicated organizations work to address the issue of marine debris in Florida through education, prevention, removal, and research efforts. In 2017, the Florida marine debris community finalized the Florida Marine Debris Reduction Guidance Plan to facilitate more effective and collaborative reduction of marine debris in the state. More information on how the Florida Marine Debris Reduction Guidance Plan was originally developed is referenced in Chapter Three of that document. In the three years since, impressive progress has been made on many of the actions listed in the plan.

To keep the marine debris actions relevant and applicable over time, partners from local, state, and federal governments, nonprofits, industry, and academic institutions convened for a workshop in May 2019 to update and revise the Florida Marine Debris Reduction Guidance Plan. They discussed achievements and lessons learned; reviewed and, if needed, modified ongoing actions; and identified future actions on which to embark. This 2020 Florida Marine Debris Reduction Plan (Reduction Plan) summarizes the input and insight of workshop participants, as well as other partners who provided contributions.

Reduction Plan Purpose

The purpose of the Florida Marine Debris Reduction Plan is to facilitate and track collaborative and effective actions to prevent, reduce, and remove marine debris in Florida.

Reduction Plan Terms

As the issue of marine debris changes, so too will this Reduction Plan. The Reduction Plan is voluntary and was designed to be a living document that will be updated every five years. From 2020-2025, participants will meet annually (via webinar or conference call) to report on the status of actions. The Florida and Caribbean Regional Coordinator for the NOAA Marine Debris Program (NOAA MDP) will coordinate these meetings. Organizations volunteer to participate in Working Groups that coordinate efforts on each of the Reduction Plan's five goals. Organizations may sign up to lead Working Groups, and may join multiple different Working Groups. These Working Groups will meet biannually to discuss progress on the Groups' actions, and the NOAA MDP Regional Coordinator and Working Group leads/co-leads will coordinate these meetings.

Marine Debris Goals, Strategies, and Actions

The tables below are the core of the Reduction Plan. They list goals, strategies, and ongoing and potential future actions that contribute to achieving the Reduction Plan's goals.

Goals

The 2020 Florida Marine Debris Reduction Plan has five major goals:

- Goal 1: Reduce the Amount of Abandoned and Derelict Vessels
- Goal 2: Reduce the Amount of Derelict Fishing Gear
- Goal 3: Increase the Capacity to Respond to Emergency Debris
- Goal 4: Increase Community Action to Prevent and Reduce Marine Debris
- **Goal 5**: Provide Data and Conduct Targeted Research to Reduce the Impacts of Marine Debris, Inform Decision Making, and Improve Natural Resource Management

Strategies

In the Reduction Plan, the strategies define how each goal will be achieved. Typically, there are several strategies per goal.

Actions

Actions are the projects and activities that could be undertaken to achieve the goals and strategies. Ongoing or potential future actions are listed for each of the strategies.



Goal 1: Reduce the Amount of Abandoned and Derelict Vessels

Displaced vessel grounding on hardbottom resources in the Florida Keys National Marine Sanctuary (Photo credit: Florida Fish and Wildlife Conservation Commission).

Strategy 1.1: Educate potential implementing partners on ADVs (e.g., impacts, prevention, reporting, disposal options, and legal consequences)

Actions

- 1.1.1. Incorporate ADV messaging into educational materials (e.g., multimedia, social media, ad campaigns)
- 1.1.2. Identify stakeholders (e.g., legal, industry, resource managers, law enforcement, marinas) and invite them to participate in workshops
- 1.1.3. Offer counties the opportunity to create and distribute information about vessel disposal options to vessel owners cited for having a vessel at risk of becoming abandoned or derelict, and work with FWC to obtain approval

Strategy 1.2: Explore policies and processes to reduce the occurence of ADVs

- 1.2.1. Encourage long-term solutions for floating structures at the local government level
- 1.2.2. Evaluate counties' use of title transfer restrictions to prevent derelict vessel abandonment
- 1.2.3. Provide assistance to local governments and stakeholders who want to enhance ADV policies
- 1.2.4. Investigate ordinances for addressing vessels at the county and local level that would not be addressed at the state level (i.e., ADVs on or attached to private property)

Strategy 1.3: Coordinate actions with FLHSMV to improve title and regulatory processes

Actions

- 1.3.1. Work with FLHSMV to improve guidelines and title documents related to vessel registration
- 1.3.2. Coordinate with FLHSMV on educating buyers, sellers, and law enforcement on proper title transfers
- 1.3.3. Work with FLHSMV to give vessel owners information about mail-in title transfers

Strategy 1.4: Build capacity to enforce compliance with ADV laws

Actions

1.4.1. Increase the number of ADV-educated law enforcement officers

1.4.2. Promote and increase the use of "vessels at risk of becoming derelict" regulations

1.4.3. Investigate policies from other states on enforcement of ADV laws (e.g., California policy on when a vessel is no longer considered a vessel)

Strategy 1.5: Increase vessel donation and disposal options for vessel owners

Actions

- 1.5.1. Assist vessel owners in easily surrendering their vessels by improving disposal options
- 1.5.2. Develop collaborations with county solid waste and landfills to reduce or eliminate disposal fees on vessels
- 1.5.3. Investigate alternative disposal options (e.g., recycling, reusing) of existing materials (e.g., fiberglass)
- 1.5.4. Coordinate with industry partners to discuss ways of making vessels more valuable at the end of their life cycle (e.g., make recyclable, reusable, biodegradable and/or encourage loyalty/buy-back programs)
- 1.5.5. Implement a vessel turn-in pilot program
- 1.5.6. Assess the costs/benefits of a statewide vessel turn-in program to determine efficacy

Strategy 1.6: Improve the statewide ADV database inventory

Actions

1.6.1. Create an ADV flow chart and list of stakeholders and their resources for resource managers, depicting how to process and enter ADVs into the database

Strategy 1.6: Improve the statewide ADV database inventory

Actions

- 1.6.2. Produce a trend report on reported vessels, ADV enforcement actions, and vessel removal and disposal based on annual data
- 1.6.3. Conduct research to identify counties with ADV issues that are not being addressed, and assist them in developing an ADV management program
- 1.6.4. Develop incentives to encourage greater use of the ADV database by federal, state, and local agencies (e.g., tie removal funding to derelict vessels identified in the database)

Strategy 1.7: Increase and improve funding mechanisms and strategies to remove ADVs

170	Coordinate with fordered a new size for function and expression tional assistances
	all available funding that can be used for ADV removal
1.7.1.	Coordinate with counties/municipalities (e.g., Association of Counties and the League of Cities) on

- 1.7.2. Coordinate with federal agencies for funding and organizational assistance
- 1.7.3. Investigate voluntary funding opportunities (e.g., trust fund for ADVs, donation checkbox during vessel registration or fishing license transactions)
- 1.7.4. USCG to share the Basic Ordering Agreement list of contractors with state and local ADV points of contact



Goal 2: Reduce the Amount of Derelict Fishing Gear

Derelict lobster trap ghost fishing and impacting seagrass habitat in the Florida Keys National Marine Sanctuary (Photo credit: Florida Fish and Wildlife Conservation Commission).

Strate	Strategy 2.1: Conduct education and outreach on DFG and aquaculture gear			
Actio	ns			
2.1.1.	Develop effective DFG messaging for specific commercial and recreational gear types (e.g., nets, line, traps, aquaculture)			
2.1.2.	Incorporate DFG messaging into educational materials (e.g., multimedia, social media, ad campaigns)			
2.1.3.	Conduct workshops and trainings for recreational anglers and shellfish aquaculturists on how to reduce lost fishing gear (e.g., trap deployment, proper line rigging, marking)			
2.1.4.	Conduct outreach and coordinate with key stakeholders and decision makers to ensure they have knowledge of, and access to, relevant scientific literature and background information regarding DFG			

Strategy 2.2: Reduce the loss and impacts of fishing and aquaculture gear

- 2.2.1. Define the causes of loss for various gear types used in Florida
- 2.2.2. Gather input from stakeholders to identify ways to reduce gear loss
- 2.2.3. Develop fisheries BMPs and make them available in English and Spanish
- 2.2.4. Report the effectiveness of recreational trap licensing implementation
- 2.2.5. Develop debris management regulations for offshore mariculture facilities

Strategy 2.2: Reduce the loss and impacts of fishing and aquaculture gear

Actions

- 2.2.6. Research alternative trap designs to refine catch selectivity and reduce ghost fishing and environmental impacts
- 2.2.7. Research biodegradable alternatives to plastic and metal components of fishing gear

Strategy 2.3: Increase options for disposal and recycling of unwanted fishing and aquaculture gear

Actions

- 2.3.1. Coordinate with stakeholders to increase disposal/recycling options and facilitate access
- 2.3.2. Investigate the potential of having a broader presence of Fishing for Energy and similar programs statewide to provide accessible collection points
- 2.3.3. Develop collaborations with county solid waste agencies to reduce or eliminate tipping fees on DFG
- 2.3.4. Identify disposal methods or alternative uses for concrete material used in traps
- 2.3.5. Manage and expand fishing line recycling and collection programs
- 2.3.6. Expand disposal sites for aquaculture gear in high-density shellfish lease areas

Strategy 2.4: Build capacity to report, process, and remove DFG and aquaculture gear

- 2.4.1. Improve methods for reporting and processing DFG and aquaculture gear data
- 2.4.2. Streamline reporting of DFG sightings and removals by using the FWC Reporter App for debris sightings and the Marine Debris Tracker App to report removals
- 2.4.3. Update the FWC Reporter App to include DFG in sighting options
- 2.4.4. Increase public participation in trap and aquaculture gear retrieval efforts by engaging volunteers, fishers, and shellfish aquaculture farmers
- 2.4.5. Establish routine and post-storm debris surveys and mapping in high-density fishing grounds and shellfish aquaculture areas
- 2.4.6. Support agencies, organizations, recreational and commercial fishers, and shellfish aquaculture associations with routine and post-storm reconnaissance and cleanup events

Goal 3: Increase the Capacity to Respond to Emergency Debris

Marine debris resulting from Hurricane Michael in Panama City, Florida (Photo credit: NOAA).

Strategy 3.1: Maintain, exercise, evaluate, and distribute the Florida Marine Debris Emergency Response Guide developed by the NOAA MDP

Actions

3.1.1.	Review the Florida Marine Debris Emergency Response Guide (Response Guide) every three years and update contacts annually
3.1.2.	Conduct exercises that are either stand-alone or are a part of larger exercises
3.1.3.	Develop after-action reports and lessons learned from exercises to inform updates to the Response Guide
3.1.4.	Create an app to increase the understanding and use of the Florida Marine Debris Emergency Response Guide Response Action Flowchart
3.1.5.	Coordinate with local, regional, state, and federal emergency planners to review and incorporate the Response Guide into emergency response plans, as applicable

Strategy 3.2: Assess, document, and map disaster debris

- 3.2.1. Coordinate the documentation of pre-event hotspots among partners
- 3.2.2. Assess the Survey 123 reporting app as a way for the public or volunteers to report disaster debris
- 3.2.3. Develop approved protocols to use unmanned aerial vehicles for identifying marine debris removal priority areas after a storm event

Strategy 3.2: Assess, document, and map disaster debris

Actions

3.2.4. During assessment and response activities, look for priority areas for restoration that could be addressed quickly after a response (see 3.3.4.)

Strategy 3.3: Evaluate and provide guidance on methods to remove disaster debris

Actions

3.3.1.	Coordinate with	partners and suk	piect matters	experts to eva	aluate existing remo	oval BMPs
			,		5	

- 3.3.2. Review and continue to maintain current BMPs regarding debris removal and include them as appendices to appropriate emergency response guides
- 3.3.3. Conduct BMP training for salvage responders and agency and law enforcement staff as appropriate

3.3.4. Develop criteria for prioritizing disaster debris removal in sensitive areas

3.3.5. Develop GIS-based maps (modeled on ESI maps) to identify vulnerable locations, establish protection priorities, and identify cleanup strategies

Strategy 3.4: Build capacity for marine debris emergency response

3.4.1.	Train more Resource Advisers/Biological Monitors in advance of the storm season
3.4.2.	Develop volunteer emergency responder networks to mobilize during an event
3.4.3.	Establish a fund for disaster debris removal to supplement limited funding sources (e.g., non- Stafford Act events)
3.4.4.	Develop and establish rapid response nationwide general permits
3.4.5.	Develop response capacity for smaller debris in sensitive areas (e.g., mangroves and salt marshes)
3.4.6.	Develop lists of resources/assets available for use during post-storm cleanups (e.g., barges, removal equipment)
3.4.7.	Establish pre-event standing emergency waterway debris removal contracts for state and federal
	use

Strategy 3.5: Create state and regional groups composed of agencies and other organizations with the authority to remove rapid response debris

Actions

- 3.5.1. Continue to identify state and regional leads and group members
- 3.5.2. Schedule meetings as needed for group members to share up-to-date information
- 3.5.3. Work to establish a stable, long-term source of funding for the Marine Debris Rapid Response Program
- 3.5.4. Identify potential funding sources (e.g., private, local, state, federal)
- 3.5.5. Identify mechanisms to distribute funds efficiently

Strategy 3.6: Assess the impacts, restoration, and recovery of marine ecosystems due to rapid response debris events

Actions

- 3.6.1. Develop a mechanism to collect and maintain reports of debris and its location
- 3.6.2. Document the impacts on marine ecosystems associated with rapid response debris
- 3.6.3. Develop a monitoring approach to assess ecological recovery of impacted sites following the removal of debris

Strategy 3.7: Develop effective education and outreach mechanisms to target specific audiences linked to disaster and rapid response debris

- 3.7.1. Develop preparedness and prevention messaging for different audiences
- 3.7.2. Identify existing marine debris reporting systems and add rapid response debris reporting to them
- 3.7.3. Create mechanisms to share up-to-date information about rapid response debris locations and removal projects with the public



Goal 4: Increase Community Action to Prevent and Reduce Marine Debris

Consumer debris littering the shoreline of Biscayne Bay in Miami, Florida (Photo credit: Dave Doebler, VolunteerCleanup.org).

Strategy 4.1: Improve partnerships and increase engagement with federal, state, and local government agencies to create and enhance policies to capture and prevent consumer debris

4.1.1.	.1. Raise awareness among stormwater managers to bring a marine debris component into	
	management	
4.1.2.	Develop and implement stormwater practices that reduce the land-based debris reaching waterways (e.g., modifications to outfalls or stormwater inlets to capture trash)	
4.1.3.	Work with local governments to better understand consumer debris hotspots as opportunities for improvement and additional focus	

- 4.1.4. Develop and disseminate PSAs on solid waste management and litter reduction
- 4.1.5. Encourage and maintain recycling/trash receptacles with lids located in public spaces, bus stops, and within areas of identified need
- 4.1.6. Assess the feasibility of implementing recycling programs that have worked in other states (e.g., container deposit program)
- 4.1.7. Disseminate CCCL special event BMPs for debris prevention
- 4.1.8. Work with municipalities that have implemented effective marine debris reduction programs, initiatives, ordinances, etc., in order to provide a road map for other Florida municipalities

Strategy 4.2: Develop and share resources with industry partners to raise awareness and promote marine debris reduction initiatives

Actions

4.2.1.	Collaborate with hospitality and tourism organizations to create awareness of best practices and
	effective visitor/guest communications

4.2.2. Collaborate with the Green Lodging Program to include waste reduction initiatives

4.2.3. Promote the Clean Boating Program to increase boater and marina participation

- 4.2.4. Develop partnerships with marina managers, encouraging them to develop consumer debris programs within their own facilities
- 4.2.5. Expand certification programs (e.g., ReThink Disposable, Surfrider Foundation's Ocean Friendly Restaurants) and promote them as a model for other industries
- 4.2.6. Leverage existing, and develop new, resources to help restaurants and other food and beverage providers to shift away from single-use plastics, including a how-to guide with alternative options, case studies, a cost-savings calculator, and promotional materials

Strategy 4.3: Raise awareness among individuals to change consumer behavior by developing and expanding marine debris programs and encouraging waste reduction

Actions

4.3.1.	Promote adopt-a-storm-drain	programs
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- 4.3.2. Work with Keep Florida Beautiful affiliates to create awareness among consumers on the connection between street litter and marine debris
- 4.3.3. Disseminate debris prevention practices to boaters through outreach events (e.g., boat shows, fishing tournaments, local events)
- 4.3.4. Expand outreach programs and signage on spoil islands and other popular recreation areas (e.g., leave-no-trace; pack it in, pack it out)
- 4.3.5. Encourage and increase community cleanups among diverse underserved populations
- 4.3.6. Standardize the cleanup experience (e.g., data collection, watershed education, common messaging) and create "next steps" to encourage cleanup volunteers to take action
- 4.3.7. Engage school boards and share information on cost-savings through changes in procurement and other best practices on marine debris reduction
- 4.3.8. Share K-12 curriculum on marine debris with local schools, and promote the <u>NOAA Marine Debris</u> <u>Monitoring Toolkit for Educators</u>
- 4.3.9. Work with colleges and universities to educate students on marine debris, and to institute campuswide prevention and reduction initiatives

4.3.10. Draft BMPs for limiting single-use plastics while serving the homeless community

4.3.11. Provide training on, and encourage the use of, the Florida Marine Debris Collaboration Portal

Goal 5: Provide Data and Conduct Targeted Research to Reduce the Impacts of Marine Debris, Inform Decision Making, and Improve Natural Resource Management

Beach cleanup around a freshly laid loggerhead sea turtle nest along Florida's east coast (Photo credit: Jennifer L. McGee, Florida Fish and Wildlife Conservation Commission).

Strategy 5.1: Improve reporting and monitoring of marine debris interactions with wildlife and habitats			
Actio	Actions		
5.1.1.	Investigate, improve, and establish, if needed, a centralized system for reporting bird entanglements		
5.1.2.	Consolidate and report out on Level A cetacean entanglement and ingestion data		
5.1.3.	Review existing protocols for reporting marine debris impacts on elasmobranchs, freshwater turtles, and crocodilians, and refine as needed		
5.1.4.	Add to existing boney fish and crustacean sampling protocols for the collection and monitoring of impacts and interactions with marine debris		
5.1.5.	Review and improve data reporting of marine debris ingestion by wildlife		
5.1.6.	Create a statewide mechanism for opportunistic reporting of marine debris interactions with wildlife and habitats		
5.1.7.	Investigate and improve the centralized scientific reporting of marine debris impacts to habitats (e.g., seagrass, reefs, wetlands)		
5.1.8.	Increase and standardize monitoring to assess marine debris loads in a variety of habitats and regions around the state		

Strategy 5.2: Conduct targeted research to evaluate and better understand interactions and impacts of marine debris on wildlife and habitats

Actions

- 5.2.1. Quantify and qualify plastics exposure in the environment (e.g., toxins, microbes, compositions) for at least two habitat types
- 5.2.2. Investigate exposure and impact thresholds to organismal and ecosystem health from marine debris
- 5.2.3. Identify marine debris sources and sinks throughout the state
- 5.2.4. Model the transport of marine debris in select regions throughout the state (e.g., Biscayne Bay, Tampa Bay, Indian River Lagoon)
- 5.2.5. Investigate the potential for the trophic transfer of microplastics and toxins
- 5.2.6. Characterize and evaluate the physical interactions of wildlife with marine debris (e.g., FADs, traps and line, ADVs, storm debris)
- 5.2.7. Conduct a systems analysis of marine debris in Florida

Strategy 5.3: Evaluate the economic impacts of, and human dimensions surrounding, marine debris in order to provide data to inform decision making and natural resource management

- 5.3.1. Direct studies to evaluate human dimensions surrounding marine debris, its impacts, and related management (e.g., bans, fees, regulation) in order to best design and target outreach, community involvement and action, policy change, natural resource management, and reduction of single-use plastics
- 5.3.2. Evaluate and improve the cost effectiveness of "leave-no-trace" ordinances
- 5.3.3. Start to evaluate the human health impacts from marine debris including, but not limited to, overall health and nutrition, accessibility to natural areas, clean/safe water access, happiness index, etc.
- 5.3.4. Conduct an ecosystem service evaluation
- 5.3.5. Conduct an analysis of the economic benefit of plastic alternatives
- 5.3.6. Assess the monetary cost of marine debris in Florida (e.g., to tourism, businesses, fisheries, waste management services, special events, mitigation, cleanups)
- 5.3.7. Conduct a review of litter and illegal dumping enforcement and work with law enforcement to increase the effectiveness of compliance enforcement
- 5.3.8. Create a small business economic guide for reducing single-use plastics
- 5.3.9. Assess the economic impact of long-term moorings for ADVs

Appendix: 2020 Florida Marine Debris Reduction Plan Contributor List

Name	Organization
Anderson, Matthew	City of Coral Gables
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