

Florida Marine Debris Reduction Plan

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List of Acronyms

ADV	Abandoned and Derelict Vessel
BMP	Best Management Practices
CCCL	Coastal Construction Control Line Program
DFG	Derelict Fishing Gear
EPA	Environmental Protection Agency
ESI	Environmental Sensitivity Index
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
NERR	National Estuarine Research Reserve
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration
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 shoreline and harms ecosystems, marine life, navigation, and the economy.

Marine debris in Florida is generated from multiple sources, it comes from inland areas and is transported by waterways from densely populated coastal areas; it comes from the ocean in both the Atlantic and the Gulf, where a range of industrial and recreational activities including boating, fisheries and aquaculture occur. Moreover, coastal Florida is vulnerable to regular natural disasters such as hurricanes that can result in acute waterway debris incidents. Consequently, marine debris generated in Florida comes in a 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 regularly 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 Florida 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 Reduction Plan. They discussed achievements and lessons learned; reviewed and, if needed, modified ongoing actions; and identified future actions to embark on. This 2020-25 Florida Marine Debris Reduction Plan summarizes the input and insight of workshop participants as well as other partners who contributed to it.

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 does this Plan. The Florida Marine Debris 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 (i.e. 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. Florida Marine Debris Reduction Plan Working Groups will meet biannually to discuss progress on the group's actions, and the NOAA MDP Regional Coordinator and Working Group leads/co-leads will coordinate these meetings.

Marine Debris Goals, Strategies, & 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 this 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.

2020-2025 Florida Marine Debris Actions

Goal 1: Reduce the Amount of Abandoned and Derelict Vessels	
<i>Strategy 1: Educate Potential Implementing Partners on ADVs (e.g. impacts, prevention, reporting, disposal options and legal consequences)</i>	
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 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. FWC must approve.
<i>Strategy 2: Explore policies and processes to reduce the occurrence of ADVs</i>	
Actions	
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. County and local municipalities investigate ordinances for addressing vessels that won't be addressed at the State level (i.e., ADVs on or attached to private property)

Strategy 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 and sellers, and law enforcement on proper title transfers

1.3.3. Work with FLHSMV to give vessel owners information about mailing in title transfers

Strategy 4: Build capacity to enforce compliance with ADV laws

Actions

1.4.1. Increase number of ADV-educated law enforcement officers

1.4.2. Promote and increase utilization of “vessels at risk of becoming derelict” regulations

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

Strategy 5: Increase vessel donation and disposal options for vessel owners

Actions

1.5.1. Assist vessel owners in easily surrendering their vessel 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 vessel turn-in pilot program

1.5.6. Assess the costs/benefits of a statewide Vessel Turn In Program to determine efficacy

Strategy 6: Improve Abandoned Derelict Vessel database (inventory)

Actions	
1.6.1.	Create a flow chart of processing ADVs for resource managers including a list of stakeholders and their resources
1.6.2.	Produce trend report 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 database)
Strategy 7: Increase and improve funding mechanisms and strategies to remove ADVs	
Actions	
1.7.1.	Coordinate with counties/municipalities (Association of Counties and the League of Cities) on all available funding that can be used for ADV removals
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 share Basic Ordering Agreement list of contractors with state and local ADV points of contact

Goal 2: Reduce the Amount of Derelict Fishing Gear	
Strategy 1: Conduct education and outreach on DFG and aquaculture gear	
Actions	
2.1.1.	Develop effective DFG messaging for specific commercial and recreational gear types (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 anglers and shellfish aquaculturists on how to reduce lost fishing gear (e.g. trap deployment- proper line rigging and marking)
2.1.4.	Outreach and coordination 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: Reduce loss and impacts of fishing and aquaculture gear

Actions

- 2.2.1. Define 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 best management practices and make available in English and Spanish
- 2.2.4. Report effectiveness of recreational trap licensing implementation
- 2.2.5. Develop debris management regulations for offshore mariculture facilities
- 2.2.6. Research alternative trap designs to refine selectivity and reduce ghost fishing and environmental impacts
- 2.2.7. Research biodegradable alternatives to plastic and metal components of fishing gear

Strategy 3: Increase options for disposal and recycling of unwanted fishing and aquaculture gear

Actions

- 2.3.1. Coordinate with stakeholders to facilitate access to and increase disposal/recycling options
- 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 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 4: Build capacity to report, process, and remove DFG and aquaculture gear

Actions

- 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 Marine Debris Tracker App to report removal and FWC Reporter App for debris sightings
- 2.4.3. Update 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 clean up events

Goal 3: Increase the Capacity to Respond to Emergency Debris

Strategy 1: Maintain, exercise, evaluate, and distribute the Florida Marine Debris Emergency Response Guide developed by the NOAA MDP

Actions

3.1.1. Review the Guide every three years and update contacts annually

3.1.2. Conduct exercises either stand alone or as injects into larger exercises

3.1.3. Develop after-action reports and lessons learned from exercises to inform updates to the guidance document

3.1.4. Create an app to increase understanding and use of the Florida Emergency Response Guide flowchart

3.1.5. Coordinate with local, regional, state, and federal emergency planners to review and incorporate the guide into emergency response plans as applicable

Strategy 2: Assess, document and map disaster debris

Actions

3.2.1. Coordinate among partners to document pre-event hotspots

3.2.2. Assess Survey 123 reporting app as a way for the public or volunteers to report disaster debris

3.2.3. Develop approved protocols to be able to utilize drones for identifying marine debris removal priority areas after a storm event

3.2.4. During assessments and response activities look for restoration potential that could be addressed quickly after response - focus on priority areas

Strategy 3: Evaluate and provide guidance on methods to remove disaster debris

Actions

3.3.1. Assess existing removal BMPs and coordinate with partners and subject matter experts to evaluate BMPs
3.3.2. Review and continue to maintain current BMPs regarding debris removal and include as annexes to appropriate emergency response guides
3.3.3. Conduct BMP training for salvage responders, 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
<i>Strategy 4: Build capacity for marine debris emergency response</i>
Actions
3.4.1. Train more Natural Resource Advisers/Biological Monitors in advance of storm season
3.4.2. Develop volunteer emergency responder networks to mobilize in 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 post-storm cleanup such as barges, removal equipment, etc.
3.4.7. Establish pre-event standing emergency waterway debris removal contracts for state and federal use
<i>Strategy 5: Create state and regional groups composed of agencies and other organizations with the authority to remove rapid response debris</i>
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 rapid response debris program
3.5.4. Identify potential funding sources, either private, local, state, or federal

3.5.5. Identify mechanisms to distribute funds efficiently

Strategy 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 impacts on marine ecosystems associated with rapid response debris

3.6.3. Develop a monitoring approach to assess ecological recovery of impacted sites following removal of debris

Strategy 7: Develop effective education and outreach mechanisms to targeted specific audiences linked to disaster debris and to rapid response debris

Actions

3.7.1. Develop preparedness 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

Strategy 1: Improve partnerships and increase engagement with federal, state and local government agencies to create and enhance policies to capture and prevent consumer debris

Actions

4.1.1. Raise awareness among stormwater managers to bring marine debris component into management

4.1.2. Develop and implement stormwater practices that reduce land-based debris from reaching waterways (e.g. modifications to outfalls or stormwater inlets to capture trash)

4.1.3. Work with local governments to better understand 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 in right-of-way, public spaces, and bus stops, in areas of identified need
4.1.6. Assess 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
<i>Strategy 2: Develop and share resources with industry partners to raise awareness and promote marine debris reduction initiatives</i>
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 Green Lodging Program to include waste reduction initiatives
4.2.3. Promote the Clean Boating Programs to increase boaters and marinas participating in the programs
4.2.4. Develop increased 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's Ocean Friendly Restaurants) and promote 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
<i>Strategy 3: Raise awareness among individuals to change consumer behavior by developing and expanding marine debris programs and encouraging waste reduction</i>
Actions
4.3.1. Promote adopt-a-storm-drain programs
4.3.2. Work with Keep Florida Beautiful affiliates to create awareness among consumers for 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 and local events)
4.3.4. Expand outreach programs and signage on spoil islands and other popular recreation areas (leave no trace, pack it out)

4.3.5. Encourage and increase community clean-ups among diverse underserved populations
4.3.6. Standardize the cleanup experience (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, other best practices on marine debris reduction
4.3.8. Share K-12 curriculum on marine debris with local schools, and promote the NOAA Marine Debris Toolkit for Educators
4.3.9. Work with colleges and universities to educate students on marine debris, and to institute campus-wide prevention and reduction initiatives
4.3.10. Draft BMPs for providing resources to homeless groups in ways that limit single-use plastics
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

Strategy 1: Improve reporting and monitoring of marine debris interactions with wildlife and habitats

Actions

- 5.1.1. Investigate and improve (establish if needed) centralized reporting for bird entanglements
- 5.1.2. Consolidate and report out on Level A cenatacena entanglement and ingestion data
- 5.1.3. Review existing protocols for reporting of 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 centralized scientific reporting of marine debris impacts to habitats (i.e. seagrass, reefs, wetlands, etc.)
5.1.8. Increase and standardize monitoring to assess marine debris loads in a variety of habitats and regions around the state
<i>Strategy 2: Conduct targeted research to evaluate and better understand interactions and impacts of marine debris on wildlife and habitats</i>
Actions
5.2.1. Quantify and qualify plastics exposure in the environment (e.g. toxins, microbes, compositions, etc.) 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 transport of marine debris in select regions throughout the state (i.e. Biscayne Bay, Tampa Bay, and Indian River Lagoon)
5.2.5. Investigate the potential for trophic transfer
5.2.6. Establish statewide standardized methods and protocols
5.2.7. Characterize and evaluate the physical interactions with marine debris (e.g. FADs, traps and line, ADVs, storm debris)
5.2.8. Conduct a systems analysis of marine debris in Florida
<i>Strategy 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</i>
Actions
5.3.1. Direct studies to evaluate human dimensions surrounding marine debris, its impacts, and related management (e.g. bans, fees, regulation, etc.) 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, etc.)
5.3.7. Conduct a review of litter and illegal dumping enforcement and work with Law Enforcement to increase effectiveness of compliance
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 I – 2020 Florida Marine Debris Reduction Plan Contributor List

Last Name	First Name	Organization
Anderson	Matthew	City of Coral Gables
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Ryan	Ronda	Sarasota Bay Watch
Sanderson	Devin	Coastal Impact Fund
Schoenwald	Dara	Volunteer Cleanup.org
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