



2017 Oregon Marine Debris Action Plan

April 2017



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Acknowledgement

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List of Acronyms

BLM	Bureau of Land Management
COASST	Coastal Observation and Seabird Survey Team
CTCLUSI	Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians
DLCD	Department of Land Conservation and Development
DSL	Department of State Lands
EPA	Environmental Protection Agency
GIS	Geographic Information System
ICC	International Coastal Cleanup
JTMD	Japan Tsunami Marine Debris
MDP	Marine Debris Program
NERR	National Estuarine Research Reserve
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration
OCM	Office for Coastal Management
OCMP	Oregon Coastal Management Program
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
OIMB	Oregon Institute of Marine Biology
OMDT	Oregon Marine Debris Team
OPAC	Ocean Policy Advisory Council
OR MDAP	Oregon Marine Debris Action Plan
OSG	Oregon Sea Grant
OSMB	Oregon State Marine Board
OSU	Oregon State University
PSMFC	Pacific States Marine Fisheries Commission
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
WCMDA	West Coast Marine Debris Alliance
WCOP	West Coast Ocean Partnership
YCC	Youth Conservation Corps

Introduction

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

Over the years, Oregon’s agencies, NGOs, and industry have done remarkable work to prevent and remove marine debris. Representatives from Oregon contributed to the [West Coast Governors Alliance West Coast Marine Debris Strategy](#), which highlighted marine debris priorities and outlined an array of actions. Since 2012, the influx of Japan tsunami marine debris (JTMD) has brought together state partners to collaborate on the response to marine debris created by this tragic event, and created additional momentum to address marine debris in Oregon. In April 2016, the Oregon Ocean Policy Advisory Council (OPAC) identified marine debris as a high priority for the state. Many entities working on marine debris in Oregon have agreed to coordinate and create the Oregon Marine Debris Action Plan (OR MDAP), a work plan to facilitate collaborative and effective marine debris prevention and reduction efforts in Oregon. The NOAA Marine Debris Program (MDP) has prioritized supporting and facilitating the creation of marine debris action plans around the U.S., and is committed to supporting the OR MDAP for years to come.

The OR MDAP focuses on marine debris activities taken under normal conditions. Large-scale debris removal operations associated with major disasters are covered under the [State of Oregon Debris Management Plan](#), and the [State of Oregon Japan Tsunami Marine Debris Plan](#).

Action Plan Purpose

The purpose of the Oregon Marine Debris Action Plan is to facilitate and track collaborative and effective actions to prevent and reduce marine debris in Oregon.

Action Plan Process

The process to create the OR MDAP began with meetings with potential stakeholders to gauge the need and commitment for the Plan. The approached entities recognized the need for such a plan, and indicated interest in supporting its creation. A coordinator was hired to move the OR MDAP creation forward, and a planning team of marine debris stakeholders in Oregon was assembled to assist with the process and provide valuable input.

The first workshop was conducted in April 2016 in Newport, OR, and was attended by 50 representatives from agencies, NGOs, industry, and academia, as well as workshop support staff. The participants, working in breakout groups, reviewed the priorities identified in the pre-workshop survey and used them to create a list of strategies and potential future actions. Participant input from this workshop was used to create the Interim Draft of the OR MDAP, which was thoroughly reviewed by the participants and edited, and was used as the basis for the second workshop. During the second workshop in November 2016, 40 participants returned to Newport to complete the Plan. They discussed and refined the Action Plan document, agreed on the Plan's terms, and identified actions in which they could lead or participate. Following the second workshop, the partners reviewed the final OR MDAP document, and confirmed their commitment to the actions for which they signed up. The completed Plan will be used as a work plan to facilitate and track collaborative and effective marine debris reduction in Oregon.

Action Plan Terms

Participants agreed on the following terms:

- **Overall Action Plan term:** The overall Action Plan term (the duration of the plan) will be for six years. After six years, the plan will be evaluated.
- **Action plan operational cycle:** The Action Plan operational cycle will be for two years. At the end of an operational cycle, participants will meet at a workshop to update the Plan.
- **Communication:** A newsletter detailing the Action Plan's progress will be drafted and distributed every six months. NOAA MDP will facilitate the drafting and distribution of the newsletter. Participating entities will send content. In addition, participants will provide major updates through a listserv that will include all participants and other interested marine debris stakeholders.

Marine Debris Priorities

A questionnaire was sent to participants prior to the first workshop to gather information on marine debris priorities for Oregon. Participants generated approximately 80 ideas for marine debris priorities. The priorities identified fit into six main categories: Outreach and Education, Prevention, Removal, Coordination, Research, and Other. Several priorities were incorporated into the Action Plan, and the complete list of priorities is provided in [Appendix II](#).

Marine Debris Goals, Strategies, & Actions

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

Goals

Workshop participants agreed on four goals for this first iteration of the Oregon Marine Debris Action Plan:

1. Reduce land-based marine debris in Oregon.
2. Assess, prevent, and remove ocean-based debris.
3. Educate Oregonians about marine debris to increase their engagement in prevention and removal activities.
4. Increase Capacity to Address Abandoned and Derelict Vessels (ADV).

Strategies

The strategies define how goals will be achieved. The strategies fall into five categories: Prevention, Removal, Coordination, Research, and Abandoned and Derelict Vessels.

Actions

Actions are the projects and activities undertaken to achieve the goals. The tables contain actions that have assigned leads and/or partners. [Appendix III](#) contains projects that were discussed at the workshop but have no leads or partners at this time.

In this Action Plan, **Leads** are entities that have committed to conducting a given action, pending availability of resources (funding, staff, time, materials, etc.). An action may have one or multiple leads. Should a given action require funding, leads are committed to seek funding.

Partners are entities that have committed to supporting a given action by providing resources such as staff time, information, funding, equipment, or supplies.

Prevention Strategies and Actions



Marine debris exhibit in Bandon, OR (Photo: Washed Ashore)

Strategy 1: Prevent marine debris.

Ongoing Actions

Actions	Lead and Partners
Engage in rulemaking to establish a process for requesting to utilize the Submerged Lands Enhancement Fund.	Lead: DSL
Utilize the language of the arts to communicate marine debris to K-12 students.	Partners: OMDT, state agencies, NGO, academia
Present to K-12 audiences on marine debris.	Partners: OMDT, state agencies, NGO, academia
Provide funding for recurring cleanup activities on state-owned waterways.	Lead: DSL Partner: Lower Columbia River Estuary Partnership

Future Actions	
Actions	Lead and Partners
Expand stormwater management, producer/corporate responsibility, and other land-based efforts to reduce sources of debris before they can reach the marine environment.	Partners: Surfrider Foundation, Lower Columbia River Estuary Partnership, ODEQ
Conduct an analysis of local debris plans and integrate marine debris when possible. Communities include both coastal and those along inner rivers and waterways.	Lead: ODEQ
Assess the permitting process for notifying and consulting with fishermen and the Oregon Fisherman's Cable Committee on proposed scientific experiments in the territorial sea that could introduce marine debris.	Lead: DSL
<i>Strategy 2: Educate and motivate Oregonians to engage in marine debris prevention and removal through coordinated education and outreach.</i>	
Ongoing Actions	
Actions	Lead and Partners
Engage students in service learning projects to prevent and remove marine debris.	Partners: Oregon State Parks, Surfrider Foundation, Coquille Tribe, SOLVE, CoastWatch, CTCLUSI
Give presentations on marine debris (formal and informal) to communities and organizations.	Partners: State agencies, NGO, academia, and industry
Conduct educational campaigns, programs and outreach activities such as the Surfrider Foundation's Rise above Plastic Program and "Hold on To Your Butts" Program.	Partners: State agencies, NGO, academia, and industry
Create and conduct Public Service Announcements targeting single-use plastics and the value of clean beaches.	Partners: Oregon State Parks, Surfrider Foundation, CoastWatch, SOLVE
Educate participants at cleanup events about marine debris.	Partners: SOLVE, Oregon State Parks, BLM, USFS, OMDT partners, CTCLUSI, and others
Develop a portable marine debris exhibit to educate about the issue of and solutions to marine debris.	Lead: South Slough NERR Partners: NOAA MDP and OCM
Build and exhibit aesthetically powerful sculptures made of marine debris to raise awareness about plastic pollution.	Lead: Washed Ashore Partner: Oregon State Parks
Present to local, regional, and national groups on using the arts to communicate about marine debris.	Lead: Washed Ashore

Conduct educational messaging about marine debris in feeding narrations, including World Oceans Day and other interpretive programming.	Lead: Oregon Coast Aquarium
Raise awareness about plastic as a material and its environmental impact.	Lead: Washed Ashore Partner: EPA Trash Free Waters, ODEQ
Educate consumers about sustainable and eco-friendly alternatives to single-use, disposable materials.	Lead: Washed Ashore Partners: Oregon Shores, Surfrider Foundation

Future Actions

Actions	Lead and Partners
Develop marine debris exhibits for educational purposes.	Partners: Washed Ashore, Oregon Coast Aquarium, Oregon Shores, SOLVE
Develop a framework to designate an Oregon Marine Debris Month and highlight marine debris through messaging, activities, and social media.	Lead: OMDT Partners: OMDT, WCOP, Oregon State Parks, OCMP, DSL, ACE, OSMB, OIMB, Oregon Coast Aquarium, NOAA, USCG, Indian Tribes, SOLVE, Surfrider Foundation, Oregon Shores, DLCD, COASST, Lower Columbia River Estuary Partnership, ODEQ
Create a marine debris awareness/social marketing campaign.	Lead: Oregon Coast Aquarium Partners: SOLVE, Oregon Shores, Surfrider Foundation, COASST
Create a Statewide Rise above Plastic Day encouraging Oregonians to go one day without consuming any single-use plastics.	Lead: Surfrider Foundation Partners: Oregon Coast Aquarium, SOLVE, Oregon State Parks, Oregon Shores

Strategy 3: Educate and motivate teachers and students about marine debris.

Ongoing Actions

Actions	Lead and Partners
Maintain and update the STEAMSS-based marine debris curriculum and conduct educator workshops.	Lead: Oregon Sea Grant Partner: Oregon Coast Aquarium
Develop and implement a 4th-6th grade Integrated Arts Marine Debris Curriculum to educate about and reduce single-use plastics in everyday life.	Lead: Washed Ashore Partner: NOAA MDP

Future Actions	
Actions	Lead and Partners
Collaborate with other STEM hubs to better disseminate information on marine debris and increase awareness.	Leads: OSG, Washed Ashore Partners: Oregon Coast Aquarium, Oregon Shores, South Slough NERR
<i>Strategy 4: Educate and engage mariners from commercial fishing boats, recreational boats and industrial vessels on marine debris best practices.</i>	
Ongoing Actions	
Actions	Lead and Partners
Coordinate clean marina program to improve water quality, including prevention of marine debris.	Lead: OSMB Partner: Oregon Sea Grant
Coordinate Clean Boater Program to educate and equip boaters to use best practices to improve water quality, including prevention of marine debris.	Lead: OSMB Partner: Oregon Sea Grant

Removal Strategies and Actions



Marine debris on a beach in Oregon. (Photo: SOLVE)

Strategy 1: Increase response capacity to remove marine debris in Oregon.

Ongoing Actions

Actions	Lead and Partners
Respond to reports of large or hazardous marine debris on the ocean shore and remove or coordinate removal.	Lead: Oregon State Parks
Respond to hazardous materials/substances or items such as drums and containers on the ocean shore.	Lead: ODEQ Partners: Oregon State Parks, USCG
Host two coast-wide beach cleanups (Beach and Riverside/ICC and Spring Cleanup) per year.	Lead: SOLVE Partners: Oregon State Parks, BLM, Surfrider Foundation, Local Coastal Haulers, USFS, OR Coast Aquarium, and others
Coordinate Statewide Adopt-A-River program and inland cleanups throughout the year.	Lead: SOLVE Partner: OSMB
Remove large debris (requiring special equipment and/or permitting) on demand.	Lead: Oregon State Parks
Conduct year-round marine debris cleanups.	Partners: Surfrider Foundation, SOLVE, OMDT, Oregon State Parks, USFS, USFW, BLM, HMSC, COASST, CoastWatch

Install marine debris bag stations to facilitate cleanup.	Lead: Oregon State Parks Partners: OMDT, Surfrider Foundation, SOLVE
Coordinate and implement ongoing cleanup activities and programs targeted at inland waterways and urbanized areas (e.g., Portland Green Streets Program).	Leads: Surfrider Foundation, SOLVE Partners: City of Portland, Oregon State Parks, Local Haulers, local/regional government solid waste programs, etc.
Install cigarette butt canisters within coastal Oregon State Parks, inland waterways, and priority urban areas.	Leads: Surfrider Foundation, Oregon State Parks
Future Actions	
Actions	Lead and Partners
Improve Oregon State Parks ocean shore management capacity. Help support/expand funding for beach cleanups and beach safety programs.	Lead: Surfrider Foundation Partner: Lincoln County
Implement a rapid response program for marine debris clean up: review existing protocols and identify gaps; generate priority list by area sensitivity, level of incidents, and type of debris. Explore and improve existing debris notification protocols.	Leads: Oregon State Parks, Surfrider Foundation, OMDT Partner: SOLVE
Expand/improve upon NGO-led Oregon Marine Debris Team (OMDT) for rapid response, monitoring, and scheduled cleanups.	Lead: OMDT
Implement a coast-wide Oregon Adopt-A-Beach Program.	Lead: SOLVE Partners: Oregon State Parks, CoastWatch, NOAA MDP, Surfrider Foundation
Strategy 2: Create or modify existing policies to improve effectiveness of marine debris prevention and cleanup in Oregon.	
Ongoing Actions	
Actions	Lead and Partners
Engage Oregonians in plastic pollution policy education and reduction campaigns (where organizationally appropriate).	Lead: Surfrider Foundation
Complete the Division 82 Waterway Rules and implement the Submerged Land Enhancement Fund to support removal projects for priority debris on submerged and submersible lands.	Lead: DSL Partner: Surfrider Foundation

Future Actions	
Actions	Lead and Partners
Evaluate methods for incorporating marine debris into the Territorial Sea Plan Rocky Shores Management Strategy, now under revision, and other sections as appropriate.	Leads: OPAC, Territorial Sea Plan Working Group Partners: DLC, DSL
Strategy 3: Facilitate volunteer and staff safety during debris cleanups.	
Ongoing Actions	
Actions	Lead and Partners
Facilitate distribution of volunteer beach cleanup safety protocols during SOLVE-supported events, including a beach captain safety sheet (e.g., beach safety, hazardous materials covered prior to cleanups).	Lead: SOLVE
Future Actions	
Actions	Lead and Partners
Improve safety through the development of an OMDT volunteer safety working group, identification of sensitive/challenging/hazardous/risky areas for debris removal, development of safety protocols, and execution of training.	Leads: Oregon State Parks, OMDT
Strategy 4: Conduct response and removal of ocean-based marine debris.	
Ongoing Actions	
Actions	Lead and Partners
Promote fishing gear recycling.	Leads: PSMFC, Fishing for Energy, ODFW
Address marine mammal entanglement in the crab fishery.	Lead: PSMFC Partners: West Coast Marine Debris Alliance, NOAA NMFS
Permit commercial crab fishers to recover lost gear.	Lead: ODFW Partners: Fishing for Energy, local landfills, fishing industry
Compile derelict gear cleanup best practices.	Lead: PSMFC Partner: West Coast Marine Debris Alliance
Conduct dive cleanups in Yaquina Bay.	Lead: OR Coast Aquarium
Implement a statutory program to encapsulate white bead foam.	Lead: OSMB

Administer authorizations for the use of state-owned waterways.	Lead: DSL Partner: Oregon Dept. of Agriculture
Future Actions	
Actions	Lead and Partners
Remove derelict crab pots at dredged material disposal sites.	Partners: EPA Office of Environmental Review and Assessment, Ocean Dumping Program, Dungeness Crab Commission
Remove debris in dredged material prior to in-water disposal.	Partners: EPA, Ports, DSL, state agencies
Identify agency roles and responsibilities relative to marine debris.	Partner: DSL

Coordination Strategies and Actions



Coordinated efforts to remove marine debris (Photo: Oregon Surfrider Foundation)

Strategy 1: Increase coordination among educators, researchers, and cleanup groups on marine debris topics and events.

Future Actions

Actions	Lead and Partners
Develop and disseminate consistent educational/alternate messaging and create a platform to share educational messages.	Lead: Oregon Coast Aquarium Partners: OMDT, Oregon State Parks, Aquarium, COASST, South Slough NERR, NOAA MDP, ODEQ
Carry out a baseline data survey of Oregonian's marine debris knowledge and behaviors.	Lead: OMDT Partners: Oregon Coast Aquarium, Oregon Sea Grant

Strategy 2: Increase coordination among marine debris organizations (e.g., agencies, NGOs).

Ongoing Actions

Actions	Lead and Partners
Build upon past JTMD response efforts through continued coordination through the OMDT framework.	Lead: OMDT Partner: Oregon State Parks

Future Actions	
Actions	Lead and Partners
Review and update interagency (state and federal) emergency response coordination plan.	Partners: NOAA MDP, state and federal agencies
Conduct regional meetings with park staff to coordinate with key groups involved in debris removal, including Oregon State Parks staff and OMDT partners to work on relationship building and conduct annual strategic planning. Focus on improving rapid response for specific areas of the coast. Develop an annual plan for boots-on-the-ground coordination and cleanup activities.	Lead: Oregon State Parks, Surfrider Foundation Partner: SOLVE, CoastWatch, Washed Ashore
Improve coordination of beach and watershed cleanups by creating a Marine Debris Information Hub with cleanup maps and event calendar, social media, and listserv.	Lead: NOAA MDP Partner: Oregon State Parks, COASST, OMDT

Research Strategies and Actions



Volunteers conduct marine debris shoreline monitoring in Oregon (Photo: Redfish Rocks Community Team)

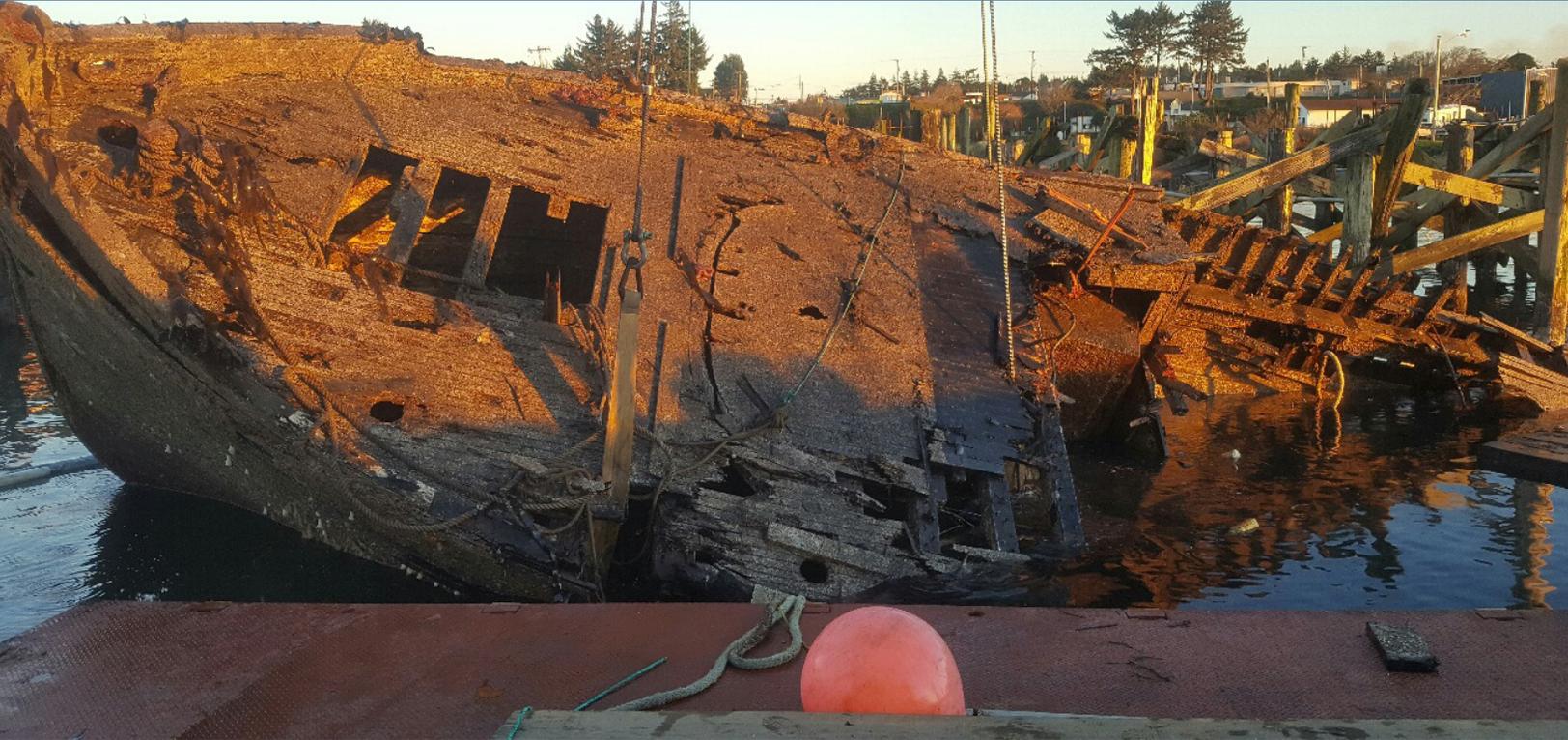
Strategy 1: Improve land-based marine debris data collection, reporting and accessibility.

Ongoing Actions

Actions	Lead and Partners
Conduct regular marine debris monitoring using NOAA protocol at ten sites.	Lead: CoastWatch Partners: OR Coast Aquarium, Surfrider Foundation, OMDT, NOAA MDP, coastal schools
Implement a citizen science marine debris monitoring module. Participants monitor a beach of a known length once per month and commit to at least a year of surveying. Data is related to impacts and sources of marine debris.	Lead: COASST Partner: NOAA MDP
Monitor marine debris remotely via webcam "PICES Project".	Lead: Tokyo University Partners: Surfrider Foundation, Lincoln County, NOAA MDP
Collect and report ICC data with the aid of participants at beach and inland litter cleanups.	Lead: SOLVE Partner: Ocean Conservancy
Evaluate the Marine Debris Tracker App.	Lead: WCMDA Partner: NOAA MDP
Analyze ICC and NOAA shoreline monitoring data including Oregon.	Lead: NOAA, Ocean Conservancy

Conduct a Lower Columbia River Marine Debris Inventory.	Lead: Lower Columbia Estuary Partnership
Future Actions	
Actions	Lead and Partners
Expand and improve existing shoreline debris monitoring programs including analysis and sharing.	Lead: Oregon Sea Grant Partners: OMDT, COASST, NOAA MDP, Oregon Shores
Research the land-sea connection in debris efforts to identify and prevent sources of debris.	Lead: TBD Partners: ODEQ, COASST
Develop research priorities for marine debris in Oregon with a focus on sources and reduction strategies. Encourage research to quantify and prevent the impacts of marine debris.	Leads: Oregon Sea Grant, NOAA MDP Partners: EPA, OSU
<i>Strategy 2: Assess ocean-based debris locations and accumulation, and identify information gaps.</i>	
Future Actions	
Actions	Lead and Partners
Research and determine criteria for prioritizing removal of marine debris, then prioritize the removal of certain types and location of harmful marine debris based on established criteria.	Partner: WCMDA

Abandoned and Derelict Vessels Strategies and Actions



Removal of the F/V Western (Photo: Billeter Marine)

The Oregon State Marine Board, in collaboration with Oregon Sea Grant, has initiated an Abandoned and Derelict Vessel Task Force with participation from Oregon coastal ports, vessel owners, and other relevant community stakeholders. In a series of meetings along the Oregon Coast, the Task Force will strategize and later make recommendations to OSMB on actions that will help address abandoned and derelict commercial vessels (ADV). OSMB is developing a vessel inventory of potential abandoned and derelict commercial vessels along the Oregon Coast to plan and prioritize actions for future removal efforts.

When completed, in 2017, the ADV Task Force strategies and actions will be incorporated into the Oregon Marine Debris Action Plan and added to the table below.

Strategy 1: Remove abandoned and derelict vessels in Oregon.

Ongoing Actions

Actions	Lead and Partners
Initiate and lead a task force to address abandoned and derelict commercial vessels on the Oregon Coast.	Lead: OSMB
Engage in rulemaking for removing abandoned and derelict structures from state-owned waterways.	Lead: DSL Partners: ODEQ, USCG
Fund and coordinate a statewide abandoned and derelict vessel removal program.	Lead: OSMB Partners: DSL, ODEQ, Ports

Future Actions	
Actions	Lead and Partners
Remove vessels from marinas, bays, and estuaries.	Partners: OSMB, NGO's, ODEQ, DSL, Ports, local and state government

Appendix I

2017 OR MDAP Workshop Participant List

Name	Organization
Allen, David	City of Newport
Barnea, Nir	NOAA Marine Debris Program
Beers, Jesse	Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians
Brock Smith, David	Curry County
Burgess, Hillary	Coastal Observation and Seabird Survey Team
Carlin Morgan, Kerry	Oregon Coast Aquarium
Castelli, Chris	Department of State Lands
Chandler, Patrick	Washed Ashore
Chuck, Walter	Port of Newport
Collier, J.R.	Oregon State Parks
Comfort, Dennis	Oregon State Parks
Crews, Tracy	Oregon Sea Grant
Cruse, Ryan	Surfrider Foundation
Custer, Fawn	Oregon Shores Conservation Coalition/CoastWatch
Dayger, Catherine	Governor's Natural Resources Office
DeLuna, Sage	Surfrider Foundation – Newport Chapter
Dolphin, Glenn	Oregon State Marine Board
Doyle, Jamie	Oregon Sea Grant
East, Jenny	Oregon Sea Grant
Flier, Meagan	Confederated Tribes of Grand Ronde
Gardner, Meg	Oregon Department of Land Conservation and Development
Gillman, Reva	Oregon State University
Goodwin, Briana	NOAA Marine Debris Program (Contract)
Harris, Sydney	US Environmental Protection Agency
Hawkins, Joy	SOLVE
Hepler, Jeff	US Army Corps of Engineers - Portland
Hillmann, Laurel	Oregon State Parks

Name	Organization
Jacobson, Kaety	Oregon Sea Grant
Johnson, Phillip	Oregon Shores Conservation Coalition
Kehoe, Christy	NOAA Marine Debris Program
Klarin, Paul	Oregon Department of Land Conservation and Development
Kowalski, Marie	Oregon State University
Lanier, Andy	Oregon Coastal Management Program
Lee, Kessina	Governor's Natural Resource Policy Office
Link, Hugh	Oregon Dungeness Crab Commission
Lippiatt, Sherry	NOAA Marine Debris Program
Lohrman, Bridgette	US Environmental Protection Agency
Moles, Vicki	Oregon State Parks
Murphy, Kenneth	Oregon State Parks
Murphy, Peter	NOAA Marine Debris Program
Plybon, Charlie	Surfrider Foundation
Purcell, Jennifer	Oregon Department of Environmental Quality
Rowland, Erin	Surfrider Foundation – Portland Chapter
Recht, Fran	Pacific States Marine Fisheries Commission
Rolfe, Jill	Coos County
Schmidt, Cyreis	Oregon Department of Fish and Wildlife
Snell, Pete	Surfrider Foundation – Newport Chapter
Stevenson, Calum	Oregon State Parks
Tally, Joy	South Slough NERR
Taylor, Kristen	SOLVE
Thompson, Chad	US Coast Guard Sector Columbia River
Thompson, Terry	County of Lincoln
Tonge, Emma	NOAA Marine Debris Program
Vickers, Aja	Port of Toledo
Wall, Kris	NOAA Office for Coastal Management
Zollitsch, Michael	Oregon Department of Environmental Quality

Appendix II

Oregon Marine Debris Priority List

Below is a list of marine debris priorities. The priorities were provided by Oregon marine debris stakeholders in a survey before the first workshop.

Education & Outreach

- Educate children about:
 - the environmental damage of domestic debris
 - their impacts on marine debris
 - plastic avoidance
- Engage coastal and inland communities in marine debris prevention and removal through education and outreach
- Educate the public about:
 - sources of marine debris
 - cigarette butts not being biodegradable
 - their role in marine debris and preventing it
 - the effects of marine debris
 - hazards of marine debris
 - prevention of marine debris
- Raise awareness of plastic pollution through education using the languages of both science and art
- Educate ship and boat owners about what their dumping of trash does to our ocean and beaches
- Increasing outreach to the public as well as boaters/commercial fishery fleets/personnel
 - Encourage marine debris prevention actions with the public
- Leverage volunteer efforts by educating and equipping the public
- Use consistent, accurate messaging about marine debris, specifically about its sources and impacts
 - Once sources of debris are identified, create effective outreach to groups most likely to affect change
 - Develop community campaigns to tackle abatement of one source of debris that can be addressed locally (short term)
 - Develop statement campaigns for abatement of marine debris sources (long-term)
- Provide more education through interpretive programming on beach debris and its origins
- Provide examples of common debris at evening programs
- Develop additional outreach programs, such as school visits, that bring up the issue of marine debris to better educate youth and get them involved

Prevention

- Hold domestic fleets accountable for proper disposal techniques
- Reduce fishing gear loss and marine mammal entanglement
 - Prevent the impacts of lost fishing gear through gear modification, effective removal programs, and agencies/industry collaboration
- Identify ways to improve the management of state waterways to address marine debris
- Increase extended producer responsibility
- Work with manufactures to reduce volume of plastic packaging
- Arms manufactures using bioplastic or corn plastic waddings
- Increase corporate responsibility for the end life of products manufactured and sold
- Source reduction
 - Identify priorities for source reduction using research and monitoring data
 - Reduce single-use plastics, possibly through actions like single-use plastic bag bans and making incentives for water refill stations in public venues
 - Source reduction through consumer habit change initiatives
- Identifying priority areas for enforcement of expanded polystyrene dock encapsulation
- Developing marine debris source control projects/programs
 - Explore better capture of non-recyclable plastics to reduce release to environment
- Enact rules/laws that cover land-based marine debris with stiffer penalties
- Target polices/strategies to address source issues
- Stop allowing driving on our beaches
- Innovative approaches to prevent marine debris

Removal

- Establish systems for responding to marine debris
 - Address response mechanisms to isolated debris incidents
 - Establish a system for responding to emergency marine debris removal needs
 - Organize communities to take a more active role in debris removal
- Remove marine debris from Oregon beaches
 - Hold more microplastic cleanups
 - Increase the number of cleanups
 - Target behavior change so people clean beaches whenever they go to the beach

- Increase removal of derelict gear and boats
- Add capacity to organizations handling cleanups so as to increase number and rapidity of cleanups
- Clean up of marine debris through education and incentives

Coordination

- Develop a collaborative and effective marine debris action plan in Oregon!
 - Identify gaps in addressing marine debris issues in Oregon by assessing what is already being done
 - Increase communication and coordination between groups working to address marine debris issues in Oregon
 - Engage the diversity of partners (agencies, watershed councils, National Estuary Programs) in a collaborative, non-duplicative way
 - Create greater collaboration for rapid response cleanups
- Develop an effective Abandoned and Derelict Vessel program in Oregon
- Increase partnerships internationally to bring awareness to the effects of marine debris
- Identify all possible funding sources for marine debris prevention and removal
 - Establish state funding to address marine debris issues
- Determine players for minor, major, and catastrophic debris removal operations
- Foster creative problem solving for reducing marine debris sources and/or removing existing marine debris
 - Identify coast-based debris recycling, re-use, and removal options
- Establish procedures for debris recovery in sensitive areas
- Permitting
- Strengthen partnerships between sources of data and advocacy/decision makers
- Identify and work with partner agencies and volunteer groups to assist in removal efforts as well as to create a better system to communicate marine debris removal needs and coordinate cleanup activities
- Identify existing efforts to address microplastics on our beaches, and work toward a more coordinated effort
- Identify entities with management responsibilities for marine debris

Research

- Conduct research to determine the impact of marine debris on the Oregon coast environment, tourism, wildlife, fishing industry, human safety, and economy

- Research marine debris and identify:
 - Sources of debris – do these vary along the coast?
 - Origination of debris
 - Baseline quantity of debris in a “normal” year
 - Types of marine debris
 - Percentages of tsunami debris, general marine debris, and domestic marine debris
 - Quantitative accumulation areas along the coast
 - Impacts of marine debris
 - Key activities that contribute to marine debris (land based, nearshore based)
 - How much marine debris is generated in Oregon?
 - Significant landfall sites for marine debris
 - Potential of marine debris to serve as vector for non-native species
 - Invasive species and where they’re found
 - Seasonal distribution of debris
- Research to capture synthetic clothing fibers at treatment plants
- Identify ways to better address small marine debris (microplastics)
- Continue and expand data collection to develop better understanding of marine debris types and sources
 - Establishing more monthly monitoring sites
- Improved monitoring and data associated with cleanups
- Evaluate efficacy of beach cleanups (certain areas always missed, adequate frequency of cleanups, etc.)
- Identify target areas where debris level is high and the corresponding area is more susceptible to damage

Other

- Identify the costs associated with annual “normal year” cleanups
- Reconnect citizens to the natural world to foster understanding and appreciation
- Identify underrepresented stakeholder groups that are affected by marine debris
- Discuss ways to improve the identification and management of marine debris under the existing regulatory regime
- Provide volunteer infrastructure coordination and funding to support debris response teams
- Identify culturally-significant debris

Appendix III

Future Actions without Current Leads and Partners

Future Actions	
Actions	Lead and Partners
Identify and make use of existing direct outreach and training to include marine debris.	Lead: Partners:
Determine existing amount, composition, and sources of marine debris. Utilize existing resources and reports to identify current baselines for both land-based and ocean-based debris. Host data in a publically accessible database.	Lead: Partners:
Determine target reductions and milestones. Create realistic and quantifiable targets to ensure that proper steps are being taken to reach marine debris reduction and prevention targets.	Lead: Partners:



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