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Great Lakes Marine Debris Action Plan: 2014 Action Summary Report

NOAA Marine Debris Program
National Oceanic and Atmospheric Administration
U.S. Department of Commerce
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The Great Lakes Land-based Marine Debris Action Plan

2014 Action Summary Report



Information collected and summarized by the NOAA Marine Debris Program on behalf of the Great Lakes Marine Debris Community.

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Executive Summary

The following document details progress on the Great Lakes Land-based Marine Debris Action Plan: Lowe, S.E. (ed.) (2014). The Great Lakes Land-Based Marine Debris Action Plan. NOAA Technical Memorandum NOS-OR&R-49. This action plan consists of 53 actions which are to be completed within five years (2014-2019).

During the first year of the plan, contributors to the Great Lakes Land-based Marine Debris Action Plan began work on 24 actions and successfully completed two: 1) Hosted a research panel or session at a regional conference; and 2) Developed a contact list of policy and management representatives for distribution of the final action plan. Twenty-seven actions will be started in the future.

The first semi-annual check-in for the action plan was held on November 20, 2014. During the webinar, 17 participants heard and shared a summary of action progress to date. Specifically, summary information was presented for each of the four goals in the action plan, completed actions were discussed, and other high-level updates were given from action coordinators. The webinar ended with an open discussion of feedback on reporting, communications, and challenges. A complete agenda can be found in the appendix.

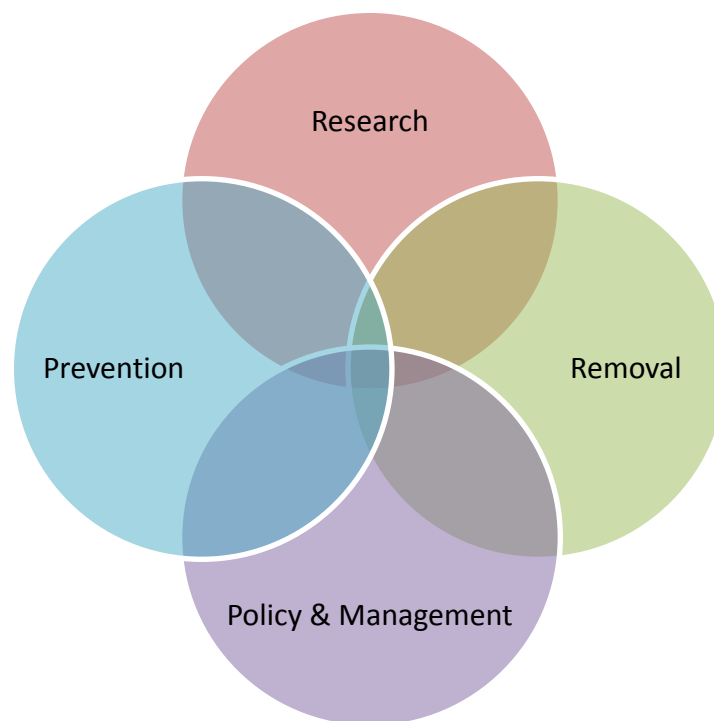
As part of the discussion, it was noted that there may be a missing action in Goal 3/Objective 4, which would capture general presentations to the public. Participants decided to continue to track these presentations, and they will be added to the overall objective metrics. A new action will be discussed during the mid-plan review process.

Action Plan Status

Vision: The Great Lakes, its coasts, people, and wildlife are free from the impacts of marine debris.

Mission: The Great Lakes will be free from marine debris through an increased understanding of the problem, preventative actions, reductions in impacts, and collaborative efforts of diverse groups.

FOUR GOALS

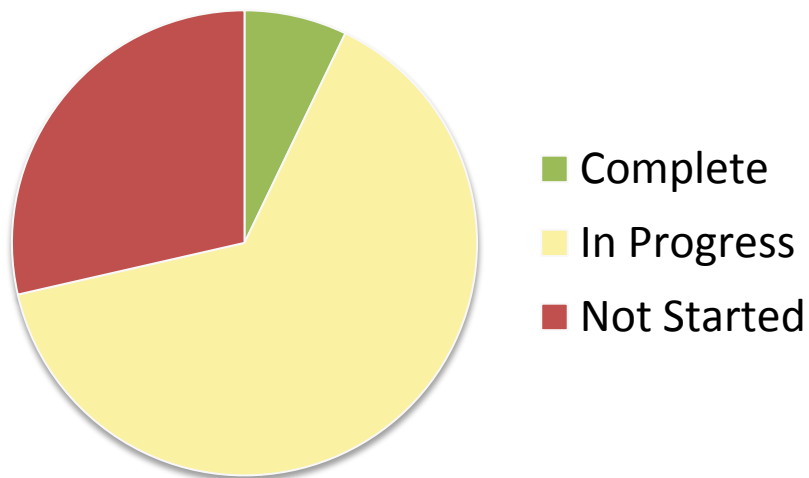


Goal 1: Knowledge gaps are identified and filled through research and monitoring of land-based marine debris.

Action Status:

1 Complete
9 In-Progress
4 Not Started

Goal 1 Action Progress



GOAL HIGHLIGHT

Complete: *Hosted a research session or panel at a regional conference.*

The 57th Annual Conference on Great Lakes Research (International Association of Great Lakes Research (IAGLR) 2014) was held in Hamilton, Ontario in May 2014. The University of Michigan organized a session titled, “Microplastic Pollution in the Great Lakes Ecosystem,” which included six talks and two posters:

1. Alford, L.K. (2014). “The Next Step: Microplastic Pollution Prevention,” 57th Annual Conference on Great Lakes Research (IAGLR 2014), Hamilton, Ontario.
2. Corcoran, P.L., Zbyszewski, M., and Hockin, A. (2014). “Distribution And Degradation Of Plastic Debris Along The Shorelines Of The Great Lakes, North America,” 57th Annual Conference on Great Lakes Research (IAGLR 2014), Hamilton, Ontario.
3. Driedger, A., Dürr, H., Mitchell, K., Lyandres, O., Cross, J., and Van Cappellen, P. (2014). “Mapping Marine Debris In The Great Lakes,” 57th Annual Conference on Great Lakes Research (IAGLR 2014), Hamilton, Ontario.

4. Helm, P., Sims, A., Just, E., Thibeau, J. And Toner, D. (2014). "Microplastics In Wastewater Effluents And An Urban Stream Entering Lake Ontario," 57th Annual Conference on Great Lakes Research (IAGLR 2014), Hamilton, Ontario.
5. Mason, S.A., Eriksen, M., and Edwards, W.J. (2014). "Great Lakes Plastic Pollution Survey," 57th Annual Conference on Great Lakes Research (IAGLR 2014), Hamilton, Ontario.
6. Norris, T., and Corcoran, P.L. (2014). "Transport Pathways And Accumulation Rates Of Plastic Debris Near Humber Bay, Lake Ontario," 57th Annual Conference on Great Lakes Research (IAGLR 2014), Hamilton, Ontario.

Approximately 40-50 people attended the session and generated discussion around the research and possible ways to prevent microplastics. Following the session, Fluid Imaging sponsored a mixer for those interested in researching microplastics. This provided an opportunity for researchers to network and forge new collaboration opportunities. A microplastics-focused session is currently being planned for IAGLR 2015.

Summary Article:

<http://www.lakescientist.com/microplastics-pollution-great-lakes-ecosystem-summary-presentations-iaglr-2014/>



Photo Credit: SUNY Fredonia

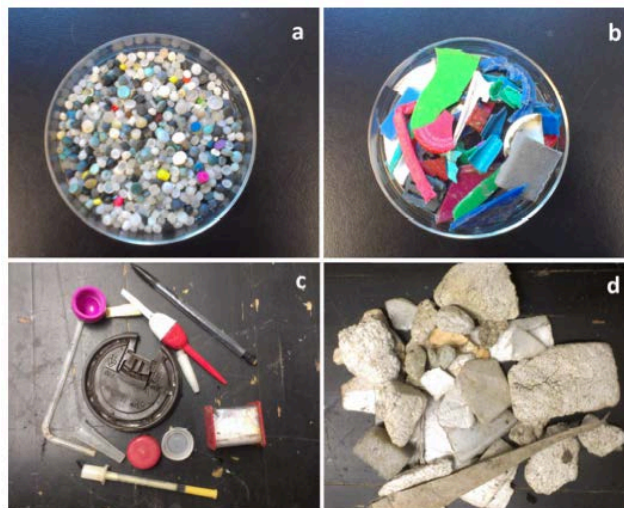


Photo Credit: Univ. of Western Ontario

Goal 1: Knowledge gaps are identified and filled through research and monitoring of land-based marine debris.			
<i>Objective 1: By the end of 2016, develop a platform for long-term collaboration on Great Lakes marine debris research.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Convene a small working group to discuss research community needs, timeline, scale, and intent for a future platform.	<u>Coordinator:</u> NOAA MDP	In Progress	NOAA MDP is currently investigating the possibility of creating a regional web-platform. Discussions of research community needs, timelines, scale, and intent for such a platform will soon begin.
	<u>Partners:</u> University of Waterloo, Clean Water Action		
	<u>Participants:</u> All research organizations		
2. Once needs analysis is complete, examine existing platforms to meet those needs.		Not Started	
<i>Objective 2: By 2016, convene researchers to foster partnerships and collaboration.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Share current venue opportunities and identify invitees. Invitees should include those researchers who are currently involved in, or have an interest in land-based marine debris research in the region.	<u>Coordinator:</u> Alliance for the Great Lakes	In Progress	Alliance for the Great Lakes has hosted one webinar and two conference sessions/discussion panels for marine debris research. Alliance will coordinate initial meeting with partners in December or January to discuss opportunities and potential research topics and venues for 2015.
	<u>Partners:</u> SUNY Fredonia, NOAA MDP, University of Wisconsin-Superior		
2. Host a research panel or session at a regional conference.	<u>Coordinator:</u> University of Michigan	Complete	IAGLR 2014 session is complete. See Goal Highlight for details.
	<u>Partner:</u> University of Wisconsin-Superior		

Objective 3: Over the next five years, create summary documents of existing research on land-based marine debris and identify key data gaps for the research community.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Publish synthesis paper on plastic marine debris research in the Great Lakes.	<u>Coordinator:</u> University of Waterloo	In Progress	University of Waterloo has submitted a manuscript to the Journal of Great Lakes Research. A revised version is currently under review by the journal.
2. Based on results of synthesis paper, perform a gap analysis to identify research needs in the region.	<u>Coordinator:</u> NOAA MDP <u>Partners:</u> University of Waterloo, University of Western Ontario, University of Michigan, Loyola University, SUNY Fredonia, University of Wisconsin-Superior	Not Started	Work on this action will begin soon after the publication of the plastic synthesis paper.
Objective 4: Through 2019, engage Great Lakes management communities to prioritize and foster implementation of relevant research topics.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Identify relevant management stakeholders and establish communication channels.	<u>Coordinator:</u> Great Lakes Sea Grant Network <u>Partner:</u> GL National Estuarine Research Reserves (NERRs)	In Progress	Sea Grant staff have started identifying relevant management stakeholders and are starting to establish communication channels via calls and e-mail.
2. Through established communication channels, work with management stakeholders to develop a list of research questions that are of interest to the Great Lakes management community.	<u>Coordinator:</u> Great Lakes Sea Grant Network <u>Partner:</u> NERRs	In Progress	Sea Grant staff are working with potential partners in the relevant management community to draft a list of research questions of interest to them.

Objective 5: Within the next five years, the Great Lakes research community will address knowledge gaps on land-based marine debris by completing and publishing a minimum of two studies.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Based on completed synthesis paper and gap analyses (Obj 3), develop a list of prioritized questions that need to be addressed and share it with regional research community.	<u>Coordinator:</u> NOAA MDP	Not Started	Work on this action will begin soon after those actions in Objective 3.
	<u>Partners:</u> Researchers, Alliance for the Great Lakes		
2. Identify funding sources for land-based marine debris research, both current and future.	<u>Coordinator:</u> University of Waterloo; University of Michigan	In Progress	The action team has started identifying possible funding sources. The plan is to first identify local opportunities (including university level, provost offices, etc.) and progress to identifying state, regional, and national/binational funding sources.
	<u>Partner:</u> Great Lakes Sea Grant Network, University of Wisconsin-Superior		
3. Create and send a bi-national letter to inform potential funding officials of regional research needs for land-based marine debris.	<u>Coordinator:</u> University of Waterloo; University of Michigan	In Progress	In conjunction with action two, the action team is creating a list of funding officials who would receive a letter. They will be seeking the help of the research community to develop a comprehensive and realistic statement of regional research needs and will be developing the formal procedure, tone, and audience for a letter.

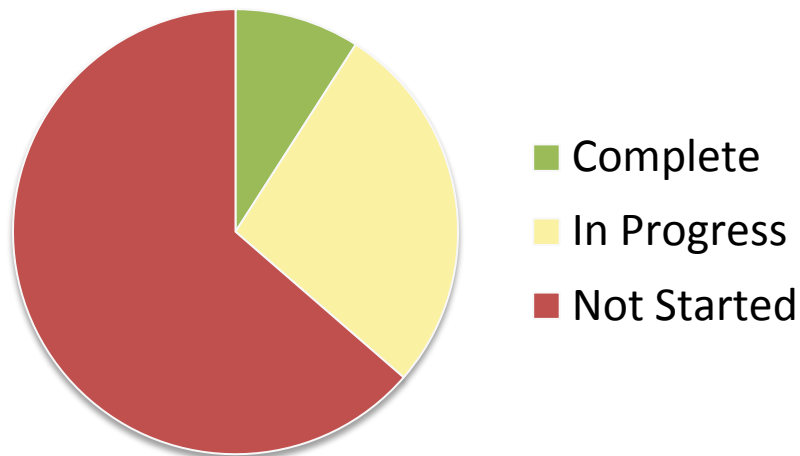
Objective 6: Through 2019, ensure data collection consistency and quality assurance by multiple users.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Establish protocol/methodology to ensure metadata on land-based debris exists and is consistent for the following mediums: a) Open & Nearshore Water b) Shoreline c) Deep & Nearshore Sediments d) Fisheries e) Water Infrastructure (wastewater systems, stormwater, etc.)	<p><u>Coordinator</u>: SUNY Fredonia & University of Michigan</p> <p><u>Partners (corresponding to mediums listed)</u>:</p> <p>a) SUNY Fredonia, NOAA MDP, University of MI, University of Wisconsin – Superior</p> <p>b) Loyola University, University of Waterloo, Alliance for the Great Lakes, NOAA MDP</p> <p>c) University of Western Ontario, NOAA MDP</p> <p>d) State/Provincial Departments of Natural Resources</p> <p>e) SUNY Fredonia</p>	In Progress	<p>To date, a timeline and task list has been created for the action strategy.</p> <p>1. Compile existing methods by the end of January 2015</p> <p>2. Review methods & develop optimized/recommended methods by May 2015.</p> <p>3. Share drafts of optimized/recommended methods at IAGLR 2015</p> <p>4. Following this discussion, identify the steps in the protocols where metadata collection is crucial</p> <p>5. Develop a form for metadata entry to accompany the protocol recommendations.</p>
2. Establish opportunities to share and/or provide training on established protocols across the regional organizations. This may be completed in conjunction with Obj 2.	<p><u>Coordinator</u>: Alliance for the Great Lakes</p> <p><u>Partners</u>: SUNY Fredonia, NOAA MDP, University of Wisconsin-Superior, NERRs</p>	In Progress	<p>Alliance for the Great Lakes has hosted one webinar and two conference sessions/discussion panels on marine debris research. These opportunities will continue in the future. Once recommended protocols are complete, they will be shared in these venues.</p>
3. Identify obstacles within quality assurance of data (ex. volunteer error) and make recommendations on how these obstacles can be resolved or clarified to data users.		Not started	

Goal 2: A science-based and strategic approach is used to guide land-based marine debris policy and management decisions in the Great Lakes.

Action Status:

1 Complete
3 In Progress
7 Not Started

Goal 2 Action Progress



GOAL HIGHLIGHT:

Complete: *Developed a contact list of policy and management representatives for distribution of the final action plan.*

The NOAA Marine Debris Program, in partnership with state management programs (Coastal Zone Management Offices, Departments of Natural Resources or Environmental Quality), the Environmental Protection Agency, the Great Lakes Sea Grant Network, and the National Estuarine Research Reserves developed a contact list of relevant policy and management representatives from around the region (APPENDIX B). These contacts received the Great Lakes Land-based Marine Debris Action Plan via email on August 5, 2014. Partners continue to follow-up with these individuals.

Goal 2: A science-based and strategic approach is used to guide land-based marine debris policy and management decisions in the Great Lakes.

Objective 1: *By the end of 2017, create a summary document of existing land-based marine debris policies and management systems in the Great Lakes.*

Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Inventory and create a summary document on existing policies and best management practices related to land-based marine debris in the Great Lakes.	<u>Coordinator:</u> Clean Water Action	Not Started	Work on this action will begin in January 2015
	<u>Partners:</u> Keep America Beautiful, American Chemistry Council		
2. Review developed summary document and identify potential target areas for improvement.	<u>Coordinator:</u> Clean Water Action	Not Started	Work on this action will begin in January 2015
	<u>Partners:</u> Keep America Beautiful, American Chemistry Council, Alliance for the Great Lakes		
3. Share the developed summary with policy makers in the Great Lakes region and make recommendations for policy improvements.	<u>Coordinator:</u> Clean Water Action	Not Started	Work on this action will begin in January 2015
	<u>Partners:</u> Keep America Beautiful, American Chemistry Council, Alliance for the Great Lakes		

Objective 2: Share the developed land-based marine debris action plan with the policy and management communities upon its completion.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Present the finalized action plan at relevant local, regional, and national conferences and/or meetings.	<u>Coordinator:</u> None – captured in annual reporting.	In Progress	In 2014, the action plan has been presented at seven conferences/meetings, reaching approximately 300 policy makers and managers.
	<u>Partners:</u> Everyone		
2. Develop a contact list of policy and management representatives for distribution of the final action plan.	<u>Coordinator:</u> NOAA MDP	Complete	The NOAA Marine Debris Program, in partnership with state management programs (Coastal Zone Management Offices, Departments of Natural Resources or Environmental Quality), the Environmental Protection Agency, the Great Lakes Sea Grant Network, the National Estuarine Research Reserves developed a contact list of relevant policy and management representatives from around the region. These contacts received the Great Lakes Land-based Marine Debris Action Plan via email on August 5, 2014. Partners continue to follow-up with these individuals.
	<u>Partners:</u> State/Provincial management programs (Coastal Zone, DNRs) EPA, Great Lakes Sea Grant Network, NERRs		
3. Develop a summarized action plan with brief talking points.	<u>Coordinator:</u> Ohio Coastal Management, Great Lakes Sea Grant Network	In Progress	Action coordinators have met to discuss the action plan and the best ways to format a summary. Ohio Coastal Management has drafted a land-based marine debris fact sheet to accompany the summarized action plan as it is developed.
	<u>Partners:</u> Michigan Department of Environmental Quality, City of Cleveland Office of Sustainability, Wisconsin Coastal Management		

<p>4. Create a general presentation or summary slide on final action plan and share with Great Lakes marine debris community for use in outreach to the policy and management communities.</p>	<p><u>Coordinator:</u> Ohio Coastal Management, Great Lakes Sea Grant Network</p>	<p>In Progress</p>	<p>Action coordinators have met and developed a list of ways to summarize the final action plan in a presentation. A social media resource list has been generated for images and ideas to include in the general presentation that will be produced.</p>
<p><u>Partners:</u> Michigan Department of Environmental Quality, City of Cleveland Office of Sustainability, Wisconsin Coastal Management Program</p>			
<p>5. Work with states, municipalities, and other key constituencies throughout the Great Lakes region to fully understand their trash prevention goals, programs, and perceived needs and barriers to success, and develop collaborative regional projects to address those factors.</p>	<p><u>Coordinator:</u> EPA</p>	<p>Not Started</p>	<p>Work on this action will begin in June 2015</p>
<p>Objective 3: Review and prioritize storm water control practices at five municipal districts in the Great Lakes by 2019.</p>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
<p>1. Engage storm water professionals and the Great Lakes Storm Water Management Institute on land-based marine debris issues in the region.</p>	<p><u>Coordinator:</u> NERRs</p> <p><u>Partners:</u> Coastal Zone Management Offices, Clean Water Action, EPA, Great Lakes Sea Grant Network</p>	<p>Not Started</p>	<p>Work on this action will begin in March 2015</p>

<p>2. Identify existing storm water control practices related to land-based marine debris and identify gaps in programs and/or policy.</p>	<p><u>Coordinator:</u> NERRs</p>	<p>Not Started</p>	<p>Work on this action will begin in March 2015</p>
<p><u>Partners:</u> Coastal Zone Management Offices, Clean Water Action, EPA, Great Lakes Sea Grant Network</p>			
<p>3. Implement tools and incentives to leverage action by various groups.</p>	<p><u>Coordinator:</u> NERRs</p>	<p>Not Started</p>	<p>Work on this action will begin in March 2015</p>
<p><u>Partners:</u> Coastal Zone Management Offices, Clean Water Action, EPA, Great Lakes Sea Grant Network</p>			

Goal 3: Land-based marine debris is prevented and reduced through an educated and involved community.

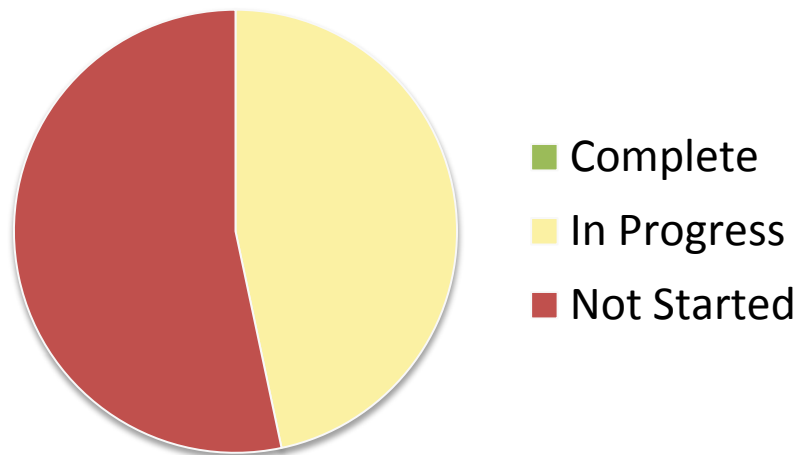
Action Status:

Zero Complete

7 In Progress (1 annual complete)

8 Not Started

Goal 3 Action Progress



- Objective 4: Conduct five informal education activities on land-based marine debris per year, per lake, to the general public.
 - Ontario: ZERO
 - Erie: 10
 - Huron: ZERO
 - Michigan: 6
 - Superior: 2

- Objective 5: Conduct five formal education activities on land-based marine debris per year, per lake, to targeted audiences.
 - Ontario: ZERO
 - Erie: 15
 - Huron: ZERO
 - Michigan: 5
 - Superior: ZERO

GOAL HIGHLIGHT:

In-Progress: *Organize an annual Boat Float in Lake Erie.*

The 6th Annual Boat Float was held on September 6, 2014 at Edgewater Park Beach. This event was coordinated by The City of Cleveland Office of Sustainability in partnership with Cleveland Metroparks and the Cleveland Museum of Natural History. This year, there were 15 boats made out of post-consumer recycled materials that were displayed and floated in Lake Erie. Awards were given for “Best Use of Recyclable Materials,” “Most Sea Worthy,” and “Most Artistic Style.” Approximately 100 spectators came out to see the competition despite the weather. The Alliance for the Great Lakes also typically organizes a beach cleanup as part of this event and RES Polyflow recycles all of the plastic materials.



Photo Credits: City of Cleveland

Goal 3: Land-based marine debris is prevented and reduced through an educated and involved community.			
<i>Objective 1: By the beginning of 2016, conduct a needs assessment for future education efforts on land-based marine debris in the Great Lakes.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Identify target audiences and potential new partners for future education efforts.	<u>Coordinator:</u> Alliance for the Great Lakes	Not Started	Work on this action will begin in January 2015
2. Inventory educational resources that are currently available and identify gaps in content and style/type.	<u>Coordinator:</u> Alliance for the Great Lakes	Not Started	Work on this action will begin in January 2015
	<u>Partners:</u> Great Lakes Sea Grant Network, NOAA MDP, NERRs, Coastal Training Program, City of Cleveland Office of Sustainability		
3. Create new or adapt existing educational materials to fill gaps identified above.	<u>Coordinator:</u> Alliance for the Great Lakes	Not Started	Work on this action will begin soon after inventory and gap analysis (action 2) is complete.
	<u>Partners:</u> Great Lakes Sea Grant Network, NOAA MDP, NERRs, WI Coastal Management Program		

Objective 2: <i>By the end of 2016, launch at least one awareness campaign for Great Lakes communities regarding land-based marine debris.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Identify and review existing awareness campaigns that could be leveraged.	<u>Coordinator:</u> Keep America Beautiful	Not Started	Work on this action will begin in January 2015
	<u>Partner:</u> Alliance for the Great Lakes		
2. Engage a marketing expert to assist in the development of a campaign.	<u>Coordinators:</u> Surfrider & Alliance for the Great Lakes	Not Started	Work on this action will begin in January 2015
	<u>Partners:</u> American Chemistry Council, Great Lakes Sea Grant Network, Keep America Beautiful, Hi-Cone		

Objective 3: <i>By 2019, develop a social marketing plan, including 10 communication products to address land-based marine debris in the Great Lakes.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Identify and review effectiveness and impact of existing social marketing programs on littering behavior.	<u>Coordinators:</u> Keep America Beautiful & Alliance for the Great Lakes	Not Started	Work on this action will begin in January 2015
	<u>Partners:</u> Great Lakes Sea Grant Network, Clean Water Action, NERRs		
2. Create a brand with localized and targeted messages based on social science research on barriers and benefits. Social science research may include public-opinion focus groups and value identification.	<u>Coordinator:</u> Alliance for the Great Lakes	Not Started	Work on this action will begin in January 2015

Objective 4: Conduct five informal education activities on land-based marine debris per year, per lake, to the general public.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Engage the Beach Ambassador Program as well as museums and/or aquariums on educational activities related to land-based marine debris in the Great Lakes.	<u>Coordinator:</u> Alliance for the Great Lakes	In Progress	The Alliance for the Great Lakes launched a beach ambassador program in Milwaukee, WI. Milwaukee County Parks staff were trained and informed about litter and beach health issues and how to educate visitors.
	<u>Partner:</u> Old Woman Creek NERR		
2. Organize an annual Boat Float in Lake Erie.	<u>Coordinator:</u> City of Cleveland Office of Sustainability	In Progress; 2014 Complete	The 2014 Lake Erie Boat Float was held on Saturday, September 6 at Edgewater Park Beach. Fifteen boats made out of post-consumer recyclable materials were displayed and floated in the Lake despite inclement weather. A hundred + spectators came out to see the boats and trophy ceremony. Photos from the event may be found at: http://www.ldempsey.com/611320/lake-erie-boat-float-2014/ The Boat Float website is: http://www.lakeerieboatfloat.org
	<u>Partners:</u> Cleveland Metroparks, Cleveland Museum of Natural History		
3. Stop in and present to coastal communities during research cruises.	<u>Coordinator:</u> None – captured in annual reporting.	In Progress	Two presentations were given during field research in 2014: one in Lake Michigan and one in Lake Erie. Researchers also gave three presentations outside of field work.
	<u>Partners:</u> All researchers		

<p>4. Create land-based marine debris educational displays at public venues (i.e. state parks, museums, marinas, universities, etc.). The displays may be mobile in nature to be easily shared across the region.</p>	<p><u>Coordinator:</u> None – captured in annual reporting.</p>	<p>In Progress</p>	<p>Four temporary educational displays were created in 2014 at the following locations/venues: Lake County Fair in Painsville, OH; Mid-America Boat Show in Cleveland, OH; University of Waterloo Science Open House in Waterloo, ON; and a traveling microplastics exhibit which was displayed at the Burning River Festival in Cleveland, OH, Lake Erie Seaway Center in Hamburg, NY, Great Lakes Healing our Waters Conference in Grand Rapids, MI, Grand Haven Community Center in Grand Haven, MI, and the Silverside Maritime Museum in Muskegon, MI.</p>
<p>5. Encourage large-scale public events (i.e. conferences, etc.) to be “zero-waste.”</p>	<p><u>Partners:</u> Everyone</p>		<p>In Progress</p>

<i>Objective 5: Conduct five formal education activities on land-based marine debris per year, per lake, to targeted audiences.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Host a regional webinar on land-based marine debris for education/outreach professionals.	<u>Coordinators:</u> NOAA MDP & Alliance for the Great Lakes	Not Started	Work on this action will begin in August 2015
	<u>Partners:</u> Great Lakes Sea Grant Network		
2. Host a teacher workshop or class on land-based marine debris.	<u>Coordinators:</u> Great Lakes Sea Grant Network, NOAA MDP	In Progress	NOAA MDP has secured internal funding to coordinate and plan an educator workshop in the summer of 2015. Location may be OSU Stone Lab where teachers can experience a mix of classroom and field activities. Budget discussions/logistics continue and further partner discussions are planned for January/February 2015.
	<u>Partner:</u> Alliance for the Great Lakes, Old Woman Creek NERR		
3. Conduct land-based marine debris educational activities with students of all ages in the Great Lakes.	<u>Coordinator:</u> None – captured in annual reporting.	In Progress	In 2014, twenty educational activities/events were held. Approximately 1040 students of all ages were reached through these activities.
	<u>Partners:</u> Everyone		

Goal 4: The impacts of land-based marine debris are reduced through removal and tracking efforts.

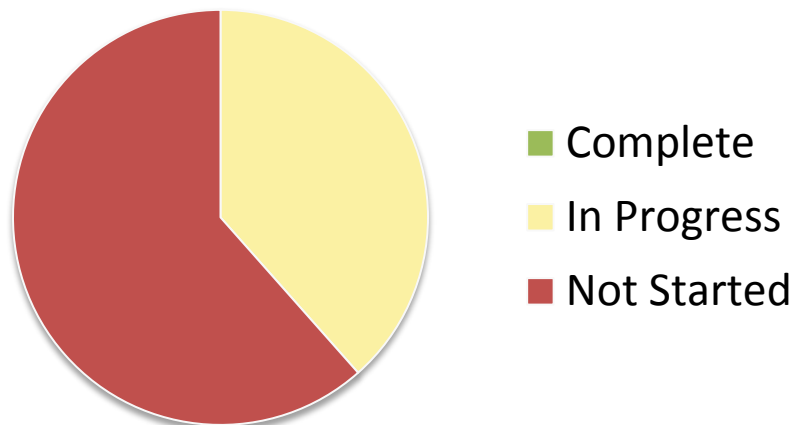
Action Status:

Zero Complete

5 In Progress

8 Not Started

Goal 4 Action Progress



GOAL HIGHLIGHT:

In-Progress: *Identify funding opportunities and land-based marine debris removal projects throughout the region.*

Action plan participants identified the following sources of funding for the removal of land-based marine debris. This list will continue to grow as new opportunities are identified.

Identified Funding Opportunity for REMOVAL of land-based marine debris.	Link to funding opportunity
Boat US Foundation Grassroots Grant	http://www.boatus.org/grants/faq.asp
Boat US Foundation Cigarette Litter Prevention Program for Marinas	http://www.boatus.org/cigarette-litter/
West Marine Blue Future Grants & Sponsorships	http://www.westmarine.com/BlueFuture/Grants-Sponsorships
Ohio EPA Recycling and Litter Prevention Grants	http://epa.ohio.gov/ocapp/grants.aspx
FY15 NOAA Marine Debris Removal Grant	http://www.grants.gov/web/grants/view-opportunity.html?oppId=265368
Coca-Cola Foundation: Community Requests	http://www.coca-colacompany.com/our-company/community-requests-guidelines-application

Goal 4: The impacts of land-based marine debris are reduced through removal and tracking efforts.			
<i>Objective 1: By 2019, bi-nationally record and report count and weight (in tons) of land-based marine debris removed from Great lakes shorelines and watersheds by volunteer programs.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Investigate Canadian volunteer program reporting mechanisms and see how they align with U.S. efforts.	<u>Coordinator:</u> Alliance for the Great Lakes <u>Partners:</u> Surfrider, Ocean Conservancy	In Progress	The Alliance for the Great Lakes has identified 4 Canadian organizations (Burlington Green, Eco Superior, Conservation Halton, and The Lake Huron Center for Coastal Conservation) which organize cleanups along shoreline areas. The largest effort is through the Great Canadian Shoreline Cleanup, part of the ICC. The Alliance for the Great Lakes will be following up with these groups to gauge interest in participating in the action plan.
2. Identify centralized location that will coordinate and host volunteer coastal cleanup data.	<u>Coordinator:</u> Alliance for the Great Lakes	Not Started	Work on this action will begin in January 2015
<i>Objective 2: By 2019, develop and publish recommendations for best practices for removing land-based marine debris.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Investigate existing removal methods for land-based marine debris and analyze for similarities as well as benefits and challenges.	<u>Coordinator:</u> NERRs	Not Started	Work on this action will begin in March 2015
2. Develop or adapt best management practices (BMPs) to target specific environments or debris types.	<u>Coordinator:</u> Great Lakes Sea Grant Network	Not Started	Work on this action will begin in January 2015

3. Incorporate land-based marine debris BMPs into existing guides (ex. Clean Marina).	<u>Coordinator:</u> Great Lakes Sea Grant Network	Not Started	Work on this action will begin in January 2015
	<u>Partner:</u> WI Coastal Management Program		
4. Share BMP recommendations with stakeholders.	<u>Coordinator:</u> Great Lakes Sea Grant Network	Not Started	Work on this action will begin in January 2015
<i>Objective 3: Within five years, target removal efforts towards land-based marine debris items that are expected to have the greatest impact or which are most abundant in number.</i>			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Analyze existing cleanup data to identify land-based marine debris types, quantities by type, and impact. Reports may be separated by geography due to variations in data.	<u>Coordinator:</u> Alliance for the Great Lakes	In Progress	The Alliance for the Great Lakes partnered with Loyola University to analyze Adopt-a-Beach data from 5 different Lake Michigan beaches. They looked at trends in the types of debris found as well as seasonal fluctuations. Loyola partners are in the process of publishing their findings. The Alliance is also comparing results from shoreline cleanups in NY (Great Lakes) and Chicago to look at comparison of types of debris from different areas of the region.
	<u>Partner:</u> Ocean Conservancy		
2. Partner with industry, manufacturers, and packaging companies to create targeted removal efforts (Ex. A large retail company like Coca-Cola could participate in a local cleanup).	<u>Coordinators:</u> Hi-Cone & Illinois Tool Works	In Progress	Hi-Cone is in conversation with Leave No Trace. They have agreed to participate with Hi-Cone and major brands in clean-up projects and to discuss integrating the Great Lakes Land-based Marine Debris content in their educational program.

Objective 4: Create a natural disaster preparedness plan (by state or lake) for land-based marine debris within five years.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Review lessons-learned from Hurricane Sandy response.	<u>Coordinator:</u> NOAA MDP <u>Partners:</u> Alliance for the Great Lakes, Ohio Department of Natural Resources/Ohio Emergency Management Association.	Not Started	Work on this action will begin in February 2015
2. Review preparedness plans from other regions and industry partners.	<u>Coordinator:</u> NOAA MDP	Not Started	Work on this action will begin in April 2015
3. Engage the U.S. Coast Guard, FEMA, and the Canadian equivalents on land-based marine debris issues in the region as well as the creation of the preparedness plans.	<u>Coordinator:</u> NOAA MDP	Not Started	Work on this action will begin in June 2015
Objective 5: By 2019, remove 200 tons of land-based marine debris from Great Lakes environments.			
Action Strategies	Coordinating & Partner Organizations	Status	Progress Description
1. Understand the current baseline of land-based marine debris removed by volunteers in the region. Report on these values.	<u>Coordinator:</u> Alliance for the Great Lakes <u>Partner:</u> Ocean Conservancy	In Progress	Since January 2014, Alliance for the Great Lakes Adopt-a-Beach teams have cleaned and tracked debris in all eight Great Lakes resulting in 825 separate monitoring events. Final results for the Adopt-a-Beach Program are not posted for 2014 until Jan 2015. The Alliance for the Great Lakes will work with the Ocean Conservancy to gain information on events that are not coordinated by the Alliance.

<p>2. Identify funding opportunities and potential land-based marine debris removal projects throughout the region.</p>	<p><u>Coordinator:</u> None – captured in annual reporting.</p>	<p>In Progress</p>	<p>Participants to the action plan have identified six funding opportunities for marine debris removal projects. This list will continue to grow as new opportunities are identified.</p>
<p><u>Partners:</u> Everyone</p>			

Appendix A: Check-In Agenda

Great Lakes
Land-based Marine Debris Action Plan
Semi-Annual Check-in
Tuesday, November 20th, 2014
1:30PM EST

Webex Information:

<https://greatlakeevents.webex.com/greatlakeevents/onstage/g.php?MTID=eeb2fc0eaab5d6a213ddb28c8ffb8dd44>

Click "Join Now"

PASSWORD: marinedebris

Call-in toll number (US/Canada): 1-650-479-3208

Access code: 665 188 940

Participants are on mute when entering the webinar. We will unmute you during portions of the webinar for questions!

1:30pm EST	Welcome and Plan Overview
1:35pm	<u>Summary of Goal 1 Action Status</u> <ul style="list-style-type: none"> • Goal Summary - Lowe • Completed Action – Lowe/Alford • Objective 2; Action 1 update – Alliance • Other high-level updates – ALL
1:50pm	<u>Summary of Goal 2 Action Status</u> <ul style="list-style-type: none"> • Goal Summary – Lowe • Completed Action – Lowe • Review Objective 2; Action 1 • Other high-level updates – ALL
2:05pm	<u>Summary of Goal 3 Action Status</u> <ul style="list-style-type: none"> • Goal Summary – Lowe • Review outreach metrics (Objectives 4 & 5) • Other high-level updates – ALL
2:20pm	<u>Summary of Goal 4 Action Status</u> <ul style="list-style-type: none"> • Goal Summary – Lowe • Other high-level updates – ALL
2:35pm	Reporting Feedback & Communications <ul style="list-style-type: none"> • What worked, what didn't? • Communication in action teams
2:45pm	Next Steps – Annual Report & Timeline
2:50pm	Open Discussion – Challenges, questions, other updates

Appendix B: Goal 2/Obj. 2/Action 2-Contact List

MANAGERS IDENTIFIED:

Name (Last)	Name (First)	Title	Organization
Axness	Kendra	AOC and LaMP Statewide Coordinator	Wisconsin DNR, Office of the Great Lakes
Barrett	Kate	IS & Data Management & Policy Coordinator	Wisconsin DNR
Benson	Bob		EPA - Trash Free Waters
Bratton	John	Director GLERL	NOAA GLERL
Breiby	Todd	Coastal Nonpoint Control and Education Coordinator	Wisconsin Coastal Management Program
Breitenbach	Cathy	Director of Lakefront Operations	Chicago Park District
Brody	Ellen		NOAA Sanctuaries
Caldwell	Michelle	Beach Program Manager	Indiana Department of Environmental Management - Lake Michigan Program
Clifton	Mary		OH Department of Health
Crisostomo	Abby	Project Manager	Metropolitan Planning Council
Culler	Brenda		Ohio CZ
Davis	Cameron	Senior Advisor to EPA Administrator	US EPA
Friis	Mike	Program Manager	Wisconsin Coastal Management Program
Galarneau	Steve	Director	Wisconsin DNR, Office of the Great Lakes
Genskow	Ken	Program Director	University of Wisconsin Extension - Natural Resources
Gonzales-Pennington	Alisa	Coastal Management Specialist	MDEQ-Office of the Great Lakes
Gorman	Ann Marie	Fisheries Biologist	ODNR - Fisheries
Graf	Tom	Submerged Lands Coordinator	WRD-DEQ
Green	Russ		Thunder Bay Sanctuary
Greenwood	Reggie	Deputy Director of Economic Development	South Suburban Mayors and Managers Association
Helm	Paul		Ontario Ministry of the Environment
Hoff	Paul		MN Pollution Control Agency
Hurley	Jim	Director	University of Wisconsin Sea Grant
Huset	Carin		MN Department of Health
Joldersma	Bretton	Lake Huron Lake Coordinator	MDEQ-Office of the Great Lakes
Kammin	Laura	Pollution Prevention Specialist	Illinois-Indiana Sea Grant
Kerr	John	Board Chair	Michigan Port Collaborative
Klump	Val	Associate Dean of Research	UW Milwaukee School of Freshwater Sciences
Legge	John	Natural Resources Manager	IL Coastal Management Program
Lehn	Cathi		City of Cleveland Office of Sustainability
Lohse-Hanson	Carri		MN Pollution Control Agency
Lopez	Frank	Manager of Old Woman Creek Nat'l Estuarine Research Reserve	Ohio Department of Natural Resources
Masterson	John	WI Lake Michigan LAMP Coordinator	Wisconsin DNR
McChristie	Michelle		Ontario Ministry of the Environment
Molnar	Mike	Program Manager	IN Lake Michigan Coastal Program
Moore	Jake		PA Coastal Resources Management Program Erie Office
Moses	Sara		GL Indian Fish and Wildlife Commission
Mountz	Liz	Coastal Management Specialist	NOAA Coastal Programs Division

Munson	Mary	Executive Director	Coastal States Organization
Murray	John	Supervising Civil Engineer	Metropolitan Wastewater Reclamation District
Noordyk	Julia	Coastal Storms Outreach Specialist	University of Wisconsin Sea Grant
O'Dell	Catherine		State of Minnesota
Parete	Paul		Environment Canada
Preisser	Matt	Lake Michigan Lake Coordinator	MDEQ-Office of the Great Lakes
Prusila	Mike	Watershed Planner	Lake County Stormwater Management Commission
Rasmussen	Russ	Water Division Administrator	WI Department of Natural Resources
Robinson	Patrick	Co-Director	UW Extension Environmental Resources Center
Sands	Karen	Manager of Sustainability	Milwaukee Metropolitan Sewer District
Sapper	Becky	Assistant Reserve Manager	Lake Superior NERR
Schaeffer	Jeff		USGS Great Lakes Science Center
Schreiber	Susie	Chair	Waukegan Harbor Citizens Advisory Group
Sealock	Lisa		Environment Canada
Selzer	Michelle	Lake Erie and Connecting Channels Lake Coordinator	MDEQ-Office of the Great Lakes
Shafer	Kevin	Executive Director	Milwaukee Metropolitan Sewer District
Smith	Ted		EPA GLNPO
Solem	Laura		MN Pollution Control Agency
Stubbs	Bryan	Executive Director	Cleveland Water Alliance
Swart	Stephanie	Lake Superior Lake Coordinator	MDEQ-Office of the Great Lakes
Tecic	Diane	Program Director	IL Coastal Management Program
Walkenbach	Amy	Manager, Watershed Management Section	Illinois EPA
Wallace	Nancy	Division Chief	NOAA Marine Debris Program
Washburn	Erika	Reserve Manager	Lake Superior NERR
Welch	Lyman	Water Quality Program Director	Alliance for the Great Lakes
Westerbur	Amber	Program Manager	MN Coastal Management Program
White	James		Port of Cleveland
Wirick	Holly	Beach Program Coordinator	U.S. EPA - Region 5
Yingling	Betsy		Northeast Ohio Regional Sewer District

POLICY CONTACTS IDENTIFIED:

Name (Last)	Name (First)	Title	Organization
Alvey	Ken	President	Lake Erie Marine Trades Association
Doss	Matt	Policy Director	Great Lakes Commission
Hesse	Gail	Director	Ohio Lake Erie Commission
Huntley	Melinda	Executive Director	Ohio Travel Association
Pebbles	Victoria	Program Director	Great Lakes Commission
Ullrich	David	Executive Director	Great Lakes Cities Initiative
Great Lakes Congressional Staff			



Penny Pritzker
United States Secretary of Commerce

Dr. Kathryn D. Sullivan
NOAA Administrator and Under Secretary of Commerce for Oceans and Atmosphere

Dr. Russell Callender
Acting Assistant Administrator, National Ocean Service