



# Clean Ocean: A Marine Waste Summit

2018 Report

**Clean**  
*Inspiring Environmental Change*

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## About Clean Foundation

Clean Foundation (“Clean”) works for a clean climate and clean water – and to support these fundamentals of a clean economy, we foster clean leaders of all ages. We provide the knowledge, tools and inspiration needed to encourage the actions that lead to positive environmental change.

Clean knows that a healthy environment and a strong economy go hand-in-hand. This is why we focus our work on critical ecological issues including energy efficiency, marine health, waste reduction, and climate change mitigation and adaptation. And while we work directly on green solutions, we know that complex environmental challenges require initiatives that are collaboratively developed and implemented by government, business, and the public.

Clean took the lead on organizing and managing the Summit.



## Acknowledgements

### Steering Committee

The success of the Clean Ocean: A Marine Summit required input from key sectoral stakeholders in the planning stages. The Steering Committee provided input and worked above expectations to ensure a successful event.

We extend a special thank you to our Steering Committee members for their invaluable contributions. The Steering Committee was comprised of:

**Heather Breeze**

*Project Leader, Marine Environmental Quality*  
Department of Fisheries and Oceans

**Jason Cheverie**

*Disposal Officer Supervisor*  
Island Waste Management Corp

**Ashley David**

*Solid Waste-Resource Coordinator*  
Nova Scotia Department of Environment

**Joe Hruska**

*Vice President of Sustainability*  
Canadian Plastics Industry Association

**Kate Nelson**

*Program Manager for Mi'kmawey Green Communities*  
Confederacy of Mainland Mi'kmaw

**Alanna McPhee**

*Director of Programs*  
Divert Nova Scotia

**Kerri McPherson**

Dalhousie University, School for Resource and Environmental Studies

**Simon Ryder-Burbidge**

*Marine Conservation Officer*  
Ecology Action Centre

**Tony Walker**

*Assistant Professor*  
Dalhousie University, School for Resource and Environmental Studies

### Facilitators

We thank Paul Black (of Fisherwick Collaborations) and Daniel Holland (of Solais Partners) for their integral contribution to development and facilitation of the Summit. They provided the expert facilitation required to create the ideal forum for delegates to not only share information, but to support, encourage and further each other's ideas and impacts. This was paramount to the success of the Summit, as the momentum from the Summit continues and delegates begin actioning their plans.

Clean Foundation is grateful to the people of the Peskotomuhkati Nation at Skutik for hosting the Clean Ocean Summit on their traditional and unceded territory.

## Sponsors

We greatly appreciate the financial and in-kind contributions of our sponsors, which were integral to making the Summit happen.

### Presenting Sponsors



### Supporting Sponsors



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### Networking Sponsors



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## Executive Summary

Across the globe, we are all affected by the declining health of the ocean. In the Maritimes, we are especially concerned because we are on the front lines of the marine waste challenge. Our livelihoods, lifestyles, cultures, and traditions all depend on having a clean ocean, and we want to preserve the health of our ocean for generations to come.

We know there are already many successful small-scale marine waste prevention, reduction, and remediation projects in this region, so we brought the change-makers behind these initiatives together for a two-day summit to deepen our potential for collective impact. The Clean Ocean Summit took place from November 26<sup>th</sup> to 27<sup>th</sup>, 2018, at the Algonquin Resort in St. Andrews, New Brunswick. Delegates from diverse sectors and communities came together to discuss the issue of marine waste, what steps are already being taken in the Maritime region, and what new actions can be pursued.

The Summit's objective was to produce a set of concrete actions to tackle the issues surrounding marine waste in the Maritimes. From the last day of the Summit until today, numerous action plans are in the works for the three themes delegates voted and accepted responsibility to address:



## Background

From harm to wildlife caused by waste fishing gear to the mounting evidence of the damages posed to the ecosystem and human health by microplastics, there is a need to scale up our response to the threat of marine waste in the Maritimes. Unlike the United States and several European countries, Canada does not have a coherent approach to preventing, reducing, and remediating the damage caused by marine waste. Nonetheless, there is a wealth of excellent work being done on this issue by academics, regulators, civil service organizations, industry, and members of the public.

However, there was no Maritime forum where change-makers could meet, discuss, and partner to enhance and broaden their impacts. This created the risk of duplication of efforts due to lack of awareness of results; financial and resource inefficiencies; unsuccessful projects being replicated because there was no venue to

share lessons learned; opportunities and innovations from outside the region not being explored; and broader issues not being tackled due to lack of capacity.

The Clean Ocean Summit emerged from a shared recognition among stakeholders concerned about marine waste that there is a need to bring together the major players from diverse sectors and regions to discuss practical solutions for the issue themes of fishing gear, consumer plastic debris, and lack of ocean literacy education.

To address these challenges, Clean hosted a Clean Ocean Summit on November 26-27, 2018 at the Algonquin Resort in St. Andrew's, New Brunswick. The Summit focused on sharing perspectives, existing knowledge, best practices, and responsibility to increase and support collective impacts.

## Summit Preparation

In preparation of the Summit, three aspects were required to architect the one and-a-half day event into foreseeable outcome-generating plans: a defined scope, a delegate list that included representatives from relevant stakeholders and rights-holders, and pre-Summit preparatory materials.

### Scope

The scope of the Summit included solid waste, such as fishing gear (nets, rope, metal and non-metal traps, bait boxes, etc.) and consumer plastics (especially plastic packaging). Items that were out of scope included liquid contaminants (e.g. oil, bilge, and wastewater), biological contaminants, and derelict vessels. These issues were excluded not because they were unimportant, but because they were so different in root cause, scale and nature of impacts that the Steering Committee felt they could not be adequately addressed in a single meeting.

### Invite List

Marine waste is a complex challenge, and the solutions do not lie with any one group or sector<sup>1</sup>. Accordingly, we sought participation from representatives of many perspectives, knowledge, different sectors, including:

- ❖ Municipal, provincial and federal governments
- ❖ Academic and research institutions
- ❖ Indigenous groups
- ❖ Organizations with diversion and/or waste reduction mandates
- ❖ Environmental non-governmental organizations
- ❖ Fishing and seafood industry associations
- ❖ Seafood retailers
- ❖ Plastics industry associations

### Pre-Summit Materials

The delegates were asked to complete an advance survey<sup>2</sup> to help the facilitators understand delegates' expectations going into the Summit as well as their baseline knowledge about marine waste issues. The survey results guided the planning for Summit discussions, working groups and outcomes. Delegates were not expected to do any preparation to complete the survey (e.g., no research). Instead, delegates were simply asked to give some thought to what they, and their affiliated organization, were prepared to do in the months following the Summit to help achieve the progress.

Most respondents are working in non-governmental organizations, followed by fisheries and government. The responses indicated that delegates' work most impacted their knowledge of marine waste issues and that greater education and awareness was one challenge. In general, respondents were very knowledgeable about the subject and described many aspects of the problem. Many respondents identified consumer behaviour as the biggest marine waste challenge, using terms like 'apathy'. Some respondents also indicated a hope that the Summit would prompt decision-makers to make real commitments rather than engage in "softball initiatives" and non-binding pledges. Many respondents also asked for greater intervention through bans and policies that limit packaging and waste.

The responses indicated a desire for greater collaboration between sectors. When asked about short- to long-term actions required to make the Summit outcomes achievable, many respondents asked for open communication, knowledge sharing and collaboration. While some respondents described past successful

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<sup>1</sup> For a full list of delegates that attended the Summit, view Appendix A.

<sup>2</sup> For the summary of the delegates' responses to the survey, see Appendix B.

actions or programs to target marine waste, the majority agreed that a lot still needs to be done to address this issue.

In addition, delegates were sent a list of Summit pre-reading and video materials<sup>3</sup> to review in advance of the Summit. Given the breadth of the sectors the delegates represented, the Steering Committee thought it would be useful to provide delegates with common ground for discussion, as well as stimulating some thinking around solutions. The full set of readings and videos were planned to take just over an hour-and-a-half to review. It was expected that delegates would strongly consider these pre-Summit materials in their discussions and planning phases with fellow delegates.

## Summit Overview



*Opening prayer from  
Peskotomuhkati Nation*

The Summit began with an opening prayer by Elder Aaron Dana from Peskotomuhkati Nation, on whose traditional territory the Summit was held. Following the opening prayer, the facilitators gave an introduction, laid the ground rules, and shared some results of the pre-Summit survey. Afterwards, the facilitators provided an overview of the Summit schedule and reiterated that the first half-day would be focused on information sharing.

In order to better understand the issue and what is being done in the region, delegates heard presentations providing context for the scale and impacts of the problem in the Maritimes, as well as presentations of the types of initiatives and champions already addressing solid marine waste. Specifically, the delegates heard a presentation by Lynn Kavanagh from World Animal Protection/Global Ghost Gear Initiative about the impacts and solutions to the problem of abandoned, lost and otherwise discarded fishing gear (“ALDFG”). Lynn highlighted the current methods used for collecting data on reported ghost gear and current initiatives for retrieving and recycling gear. This presentation highlighted the success of diverse stakeholders collaborating to find substantial and scalable solutions.



*Lynn Kavanagh from World  
Animal Protection/ Global  
Ghost Gear Initiative*

Next, the delegates heard “lightning talks”, where representatives from a variety of sectors gave 5- to 10-minute presentations to inspire new partnerships and plans by describing existing sources, impacts, and solutions to marine waste. The topics included:

**“Canada’s Plastic Challenge”** presented by Morgan Book from *Environment and Climate Change Canada* and Heather Breeze from the *Department of Fisheries and Oceans*



Representatives of the Government of Canada gave a brief introduction to the Innovative Solutions Canada’s Plastic Challenges and the seven topics for delegates to keep in mind for fundable projects related to smart food packaging, separating mixed plastics, reducing plastic construction waste, recycling glass fiber-reinforced plastic, developing sustainable fishing and aquaculture gear, removing ghost fishing gear and marine debris and improving compostability of bioplastics.

<sup>3</sup> For a list of pre-readings/viewings, view Appendix C



***“The Importance of Ocean Literacy” presented by Shannon Harding from the Interim Council of the Canadian Ocean Literacy Coalition***



This presentation discussed the importance of ocean literacy, explaining that we cannot protect what we do not understand. For this reason, education is the foundation of change and ocean literacy will play a critical role in the reduction of waste entering the oceans. The Canadian Ocean Literacy Coalition is working to define a strategy to bring this knowledge and empathy to all Canadians.

***“Clean Ocean 2018” presented by Albert Girard from Used Oil Management Association Atlantic (UOMA)***



Albert talked about their Extended Producer Responsibility (EPR) program to collect, process and provide user awareness for used oil, oil containers, used glycol (antifreeze), glycol (antifreeze) containers, and used filters. Members pay a small fee, which funds the program. UOMA also shared their desire to help other interested parties facilitate their own EPR programs.

***“Strategies for mapping and removing large and submerged marine debris” presented by Matthew Abbot from the Conservation Council of New Brunswick***



This presentation discussed a multi-year and multi-stakeholder partnership in southwest New Brunswick to map, access, and remove large and submerged marine debris. The process utilized techniques used by local fishers for ghost gear removal to expand efforts to other kinds of debris.

***“Forward Together” presented by Kate Nelson from The Confederacy of Mainland Mi’kmaq (CMM)***



CMM shared the sustainability challenges Mi’kmaq communities face, including remote locations, reliable and equitable waste management services, access to environmental-focused programming opportunities, socio-economic disadvantages and availability of sustainable product alternatives. Kate asked the delegates to acknowledge these perspectives on single-use plastics and be inclusive of posed solutions for rights-holders and stakeholders.

***“How a Small Business Is Making Big Changes” by Kate Pepler from The Tare Shop***



The owner of the Tare Shop shared her start-up story and how The Tare Shop is changing the way Haligonians think about waste. The Tare Shop provides product and workshops to support consumers in reducing their reliance on unsustainable products and packaging. Kate combined her passions – oceans, reducing plastic pollution, environmental education, and fostering community – into a business focused on helping Canadians live a zero-waste lifestyle.

The final guest presentation was by Laura Orzell from Environment and Climate Change Canada highlighting the federal initiatives that have been completed, were in the works, or were being planned to move Canada towards zero plastic waste. Canada has been a part of international efforts at the G7 and G20 supporting developing countries reduce plastic pollution. In addition, the Canadian Council of Ministers of the Environment is working on a strategy to guide federal actions to develop lifecycle approaches to address prevention and design, collection and clean-up, as well as value-recovery building.



With these stories, challenges, and opportunities in mind, delegates were ready to link efforts, scale-up approaches, and set bigger expectations for what they could collectively achieve.

## The Facilitation Process



*Paul Black, Facilitator*

The remainder of the Summit involved organically creating, managing and refining working groups for the purpose of solidifying themed action plans to guide future efforts. Delegates reflected on the pre-Summit materials and presented information and then were asked to nominate the topics or focus areas to which they felt they could meaningfully contribute. The facilitators grouped these suggestions and organized them into four initial themes:

1. **Fishing Gear (Front End):** data collection, monitoring, prevention programming, gear innovation, regulations around use and deployment, role of governments
2. **Fishing Gear (Back End):** recycling programs, removal/recovery projects, disposal, fisheries and aquacultures' roles, end of life business opportunities, and wharf-based initiatives
3. **Education and Awareness:** consumer education, education of users, local initiatives/grassroots, knowledge transfer, resource and information 'banking', and school-based programming
4. **Single-Use Plastics:** end producer responsibilities, monitoring and tracking, reducing usage, innovation in their production, regulations around use, disposal, retail or corporate use and disposal, health impacts, recycling programs, micro-plastics

Delegates were asked to select the theme and to join an Action Group tasked with developing an action plan to address that theme. The bulk of the Summit was spent on multiple sessions designed to have delegates tease out a clear problem statement for each theme, identify concrete actions and key stakeholders needed to address the problem, and buttress these actions within a set of concrete timelines. The facilitators encouraged delegates to create action plan goals that were **S**pecific, **M**easurable, **A**ttainable, **R**elevant, and **T**ime-based (so-called "SMART" goals). A part of determining plan viability was figuring out what each member could contribute

as well as if their group should have sub-groups for better use of the decision-making time, given that some groups were larger than others.

To cap off the Summit, representatives from each Action Group presented their action plans, including tasks, timelines, necessary resources, potential challenges, and anticipated results. Following the presentations, other delegates had the opportunity to ask questions and suggest changes to the Action Plans, offer connections or resources, and build on the excitement about the work ahead.

## Looking Forward

Since the Summit, the original four Action Groups have been pared down to three: Fishing Gear, Single-Use Plastics and Education. This was based on overlaps and similarities found between the "front-end" and "back-end" fishing gear groups and the desire to eliminate duplication of efforts. With each group's Action Plans solidified, the next steps were to put their plans in motion by following up on action items and scheduling future meetings.

# Fishing Gear Action Group

## Discussion Recap



Simon Ryder-Burbidge

Virtually all participants agreed that marine plastics and waste gear produced by fisheries activities was indeed a problem. The original two Fishing Gear Action Groups each produced a problem statement. The Front-End Fishing Group chose: *“Marine debris is a multi-product sourced issue that lacks a formal data and registry system to prompt innovative responses from multiple stakeholder groups”*. The Back-End Fishing Gear Group chose: *“Responsible gear disposal is challenging due to regulatory barriers and a lack of infrastructure, data and incentives”*. In reviewing the two problem statements, both Action Groups acknowledged missing data as one of the main reasons for the lack of progress in addressing waste fishing gear around the Maritimes.

To address and eliminate the harms caused by waste fishing gear, members suggested six focus areas:

## Focus Areas

1. Gathering existing and new data on waste fishing gear
2. Educating waste gear contributors
3. Retrieving and storing the waste fishing gear
4. Testing alternative fishing gear
5. Testing the scaling of existing successful retrieval and upcycling programs
6. Opening new markets for recycled and alternative products

Members recommended creating a database and reporting framework to inform waste fishing gear contributors (intentional and accidental) and inspire innovative solutions from multi-stakeholder groups. The members of the Fishing Gear Action Group identified that the database would source and compile the most accurate information of quantity and location of waste fishing gear. The Action Group wants to look for the information that exists concerning reports of found waste fishing gear.

Another action related to creating strategies to retrieve waste fishing gear in collaboration with industry members and other key stakeholders.

Beyond locating the waste gear and retrieving it safely, the retrieved gear needs to be safely stored pending the identification of opportunities for its reuse or recycling. To determine such opportunities, there would need to be further research into EPR programs. The end goal is to create a system for responsible gear disposal that relies on accurate data for the location and amount of waste fishing gear, regulatory reform to support sustainable industry practices, the development of new infrastructure to collect and store waste fishing gear, and incentives to support and improve this system.

## Next Steps

When day two of the Summit closed, members left with assigned action items. The members remained in one large Action Group, as they wanted to know all the developments related to the six focus areas. The first two action items were related to knowledge gathering and sharing:

1. Compile data/inventory of waste fishing gear (starting with rope) located around the Maritime Provinces from various groups and establish a baseline for waste fishing gear data
2. Connect the existing marine waste-focused stakeholders from the Maritime Provinces and establish a Regional Steering Committee to share knowledge and best practices

By the first teleconference call in mid-January 2019, Action Group members reported they are in the process of discussing the Summit with their marine waste-focused stakeholders, groups and interested parties and are increasing interest in creating a Regional Steering Committee. Some members know of or have access to valuable data to start the data collection process. Other members have a part-time student intern researching rope, and regulations and policies around retrieving gear. They discovered and shared news of international programs designed to collect, reduce and reuse waste fishing gear. For the next check-in meeting, they are going to connect with provincial government contacts and EPR organizations about encouraging and supporting rope EPR programs in the Maritimes.

## Single-Use Plastics Action Group

### Discussion Recap

Members of this Action Group had a vibrant and, at times, conflicting conversation on waste plastic resources during the Summit. Topics contributing to the problem included: living in a “disposable society”, promoting responsible use of single-use plastics, complexities of manufacturing and recycling plastics, mismanagement of plastic resources, the role of consumers, and the accessibility and higher cost of more sustainable alternatives. In the end, participants decided their problem statement would be: *“Mismanagement of design and production, overconsumption and poor end-of-life planning is resulting in single-use plastics ending up in our environment.”*

In discussing possible solutions and reflecting on their expertise and networks, this Action Group identified four focus areas to tackle:

### Focus Areas

1. Collecting baseline data and building a report about ocean plastics in the Maritimes
2. Encouraging EPR programing for local manufacturers
3. Developing or supporting reduce, reuse, recycle (3R's) initiatives related to plastic bags
4. Developing or supporting recycling initiatives and best practices related to polypropylene (PP) bottle caps

With respect to data collection, the main goal was to provide copies of the report to all levels of government with the main purpose of better informing policies. The Action Group planned to gather data by launching a Maritime data sharing platform where people could upload and record their research and findings in relation to micro and macro plastics. Action Group members will make or support the creation of a bi-lingual, public report from the collected data. This will in turn help connect the data to the causes and future risks of local micro and macro plastic contaminants found in Maritime marine environments. The hope is that, with better understanding of the data, government will be better able to respond with policies that will support the reduction of ocean plastic contamination.



Ashley David

With respect to EPR programs, the main goal was to raise awareness of the benefits of having EPR programs for packaging in the Maritimes. The plan is to produce a report that will highlight the benefits of EPR for packaging and how the Maritimes can adopt more EPR programs.

After discussing options for reducing waste resulting from single-use consumer plastics, the group decided to focus on successful initiatives that were established elsewhere in Canada and replicate those efforts in the Maritimes. This included some members supporting plastic bag bans, 3R's policies to manage bags, and others championing bottle cap best practices recycling programs.

## Next Steps

This Action Group had a call in February 2019 to reconvene, provide updates on progress, and develop a more detailed plan in relation to their focus areas. Members acknowledged that no work had been started for the EPR awareness campaign, though the group strongly believed in this plan to address preventing future marine plastics. Hopefully more developments related to this action plan will evolve later this year.

Members reported they are looking into creating a research portal and reaching out to other organizations for support. In addition, another member is conducting micro-plastics research and will share completed reports to initiate the data collection.

Other members are supporting grassroots initiatives for businesses and municipalities to reduce plastics consumption and looking to promote the adoption of such initiatives across the Maritimes. Members have also been involved with community forums and panel discussions on ways to reduce single-use plastics.

Other members are in the process of developing a “Caps-On” pilot recycling/best practices program and finding a host organization to facilitate delivery. Finally, some members have sent letters of support for plastic bag bans, while others promoted a collaborative approach with industry and consumers. It should be noted that this strategy did not have support from all members of the Action Group; some believe that other mitigation strategies are more effective.

## Education Action Group

### Discussion Recap



Education Group

The Education Action Group discussed the lack of ocean literacy education and its importance to any marine waste reduction effort. With this in mind, the Action Group decided their problem statement would be: *“Education is not enough, not always appropriate or accessible and it needs to be more cohesive”*.

To address the inappropriateness, inaccessibility and incoherence of ocean literacy education, this Action Group identified three focus areas:

## Focus Areas

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**1. Gathering best practices for ocean literacy education in the Maritimes**

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**2. Identifying the barriers of ocean literacy in the Maritimes and performing a needs assessment**

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**3. Creating appropriate education materials to support a lifestyle transition from single-use to reusable lifestyles**

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Members decided to create and deliver a public report that discusses the importance of the ocean literacy education and provides best practices. After highlighting the importance of ocean literacy and the causes of inaccessibility to ocean literacy education, members will create community education programs. These programs will be developed using an inclusive approach that invites the communities and groups being taught to be a part of the program development.



As the members discussed, developing a culture of ocean literacy (like Nova Scotians created a culture of recycling and repairing) is possible but it needs to recognize the socio-economic disadvantages faced by communities. The Education Action Group will support a whole approach to the zero-waste economy, where the communities implementing the behaviour change come up with the overall solution. This would involve speaking to communities who are ready to move towards a zero-waste system and asking them how they want to get there. For other communities that are not ready, members could engage, educate, and collaborate on why they are not and what they need to be ready. Finally, members discussed having more quality education methods other than schools, such as providing an online forum of quality education materials for anyone to use (social media could bring awareness to the source). This will support the creation and sharing of positive, grassroots education success stories.

One of the more interesting points of discussion within this group was the different contexts and challenges facing First Nations versus settler communities in the Maritimes. It was a key focus for this group that any educational programs be inclusive of all Maritime communities, which meant that there could be no 'one-size-fits-all' approach to developing programs. Members felt that distinct strategies would need to be developed for First Nation communities – and potentially for other under-served communities – in addition to any programming developed for other Maritime communities. In any future Summits, Clean will endeavour to ensure that similar discussions take place in all Action Groups.

### Next Steps

At the first teleconference call in mid-January 2019, Action Group members confirmed their intentions to move forward on the action plan as laid out at the Summit. It was reported that there would be an opportunity to collaborate with the Canadian Ocean Literacy Coalition, who are in the process of hiring an Atlantic Regional Coordinator whose focus will be to gather similar data with a boarder scope. They are offering to include the Education Action Group's questions within their research in exchange for introductions to organizations who are doing Ocean Literacy work in Atlantic Canada. The Action group decided that this would be a beneficial way to move forward with the research and such research will begin in April 2019 across Atlantic Canada. In the meantime, some members are looking into funding applications to finance the development of the final report and support the travel associated with their action plan. Members solidified timelines to stay on track of developing a public report for 2020.

## Reflecting on Results

### Participation

Clean expected good participation from the delegates over the one and half days; but was pleasantly surprised to experience and witness the amount of collaboration, passion and commitment driving the Action Groups. When the invite list was first developed, there was no guarantee plans would even be created, given the many perspectives. No matter the opinion or obstacle, the delegates at the Summit knew that the most important goals were to make key partnerships to expand collaboration, awareness and action toward addressing marine waste. To this day, the momentum from the Summit is pushing the delegates to continue action planning and develop other opportunities.

We recognize that we did not have all the representation we hoped for in the planning stages. For example, we did not have participants from municipal governments, which play central roles in solid waste management. However, we did have a successful group that came ready to put aside differences and create solutions. As we reflect on the outcomes of the Summit, we will be improving our processes to ensure an even bigger, more inclusive, and more action generating Summit.

## Delegate Feedback

According to the feedback survey<sup>4</sup>, delegates were overall happy with the Summit and its outcomes. Delegates were most pleased with the amount of networking and everyone's commitment to action. Some recommendations for improvement for the next Summit included providing more clarity and direction at the outset and planning for a full two full days versus one and a half days.



*Delegates at the Clean Ocean Summit*

## What's next?

Given the results of the 2018 Clean Ocean Summit, the encouragement from the attendees, and the lessons learned from the entire experience, Clean hopes to organize a follow-up Summit in Fall 2019. The Summit was a platform for knowledge sharing and absorbing; for new relationships and partnerships; for new directions and bigger goals. Delegates have asked for a second Summit, as they want to keep the momentum going, find more opportunities to create solutions and bring more key players to the table for discussion.

Taking into consideration the level of planning and time required to execute such a feat, Clean would plan the 2019 Clean Ocean Summit sooner, so that information and invitations could be released earlier. This would give delegates more time to plan their attendance and participation, as the next Summit would be a full two days instead of one and a half days. We are confident this Summit is accelerating progress with a view to creating new measurable action steps, extending the reach of those already in progress, and expanding collaboration and awareness all for addressing marine waste in the Maritimes. We are excited for what the future of marine waste management and are hopeful the Maritimes will be leaders for substantial change.

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<sup>4</sup> Delegate Survey results are shown in Appendix E

## Appendix A

### List of Represented Organizations



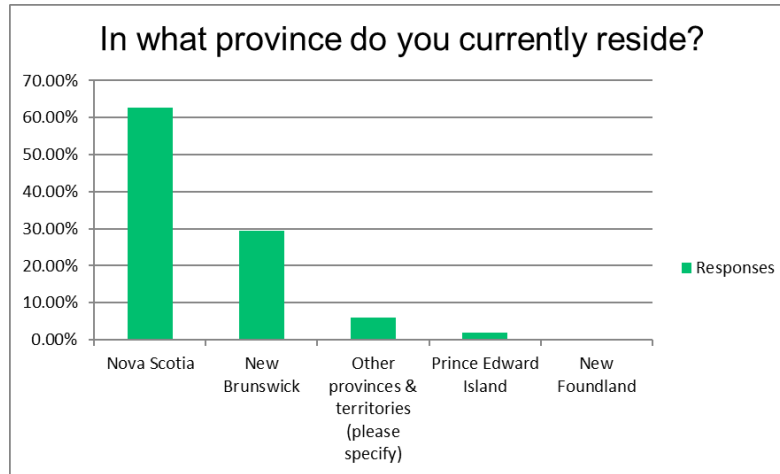
*Delegates who attended the 2018 Clean Ocean Summit*

- |   |  |
|---|--|
| ❖ Annapolis Valley First Nation                               | ❖ Island Waste Management Corp   |
| ❖ Ashored Innovations   | ❖ Kwi'mu'kw Maw-klusuaqn Negotiation Office  |
| ❖ Association des crabiers acadiens inc.                      | ❖ Maliseet First Nation Conservation Council   |
| ❖ Atlantic Canada Fish Farmers Association                    | ❖ Mi'kmaw Conservation Group   |
| ❖ Atlantic Policy Congress of First Nation Chiefs Secretariat | ❖ New Brunswick Department of Agriculture, Aquaculture and Fisheries / NB Marine Strategy Advisory Committee (MDSAC) |
| ❖ Atlantic Used Oil Management Association                    | ❖ New Brunswick Department of Environment and Local Government   |
| ❖ Back to the Sea Society                                     | ❖ Nova Scotia Department of Fisheries and Aquaculture  |
| ❖ Bluenose Coastal Action Foundation                          | ❖ Nova Scotia Environment  |
| ❖ Campobello Whale Rescue Team                                | ❖ Nova Scotia Seafood Alliance   |
| ❖ Canadian Plastics Industry Association                      | ❖ Oceans North   |
| ❖ CBCL Limited  | ❖ Peskotomuhkati Nation at Skutik  |
| ❖ Clean Foundation  | ❖ Pictou Landing First Nation  |
| ❖ Coldwater Lobster Association                               | ❖ Prince Edward Island Fisherman's Association   |
| ❖ Confederacy of Mainland Mi'kmaq                             | ❖ Terrapure  |
| ❖ Conservation Council of New Brunswick                       | ❖ The Nature Trust of New Brunswick  |
| ❖ Dalhousie University  | ❖ The Tare Shop  |
| ❖ Department of Fisheries and Oceans                          | ❖ True North Seafood - Cooke Aquaculture Inc.  |
| ❖ Develop Nova Scotia   | ❖ Unima'ki Institute of Natural Resources  |
| ❖ Divert NS   | ❖ University New Brunswick   |
| ❖ Ecology Action Centre                                       | ❖ World Animal Protection / Global Ghost Gear Initiative   |
| ❖ EnviroCulture Consulting                                    | ❖ World Wildlife Fund Canada   |
| ❖ Environment & Climate Change Canada                         |  |
| ❖ Fishermen's & Scientists Research Society                   |  |
| ❖ Fort Folly Habitat Recovery                                 |  |
| ❖ Fundy North Fishermen's Association                         |  |
| ❖ Fundy Regional Service Commission                           |  |
| ❖ Grand Manan Fishermen's Association                         |  |
| ❖ Huntsman Marine Science Centre                              |  |
| ❖ Ice River Springs   |  |

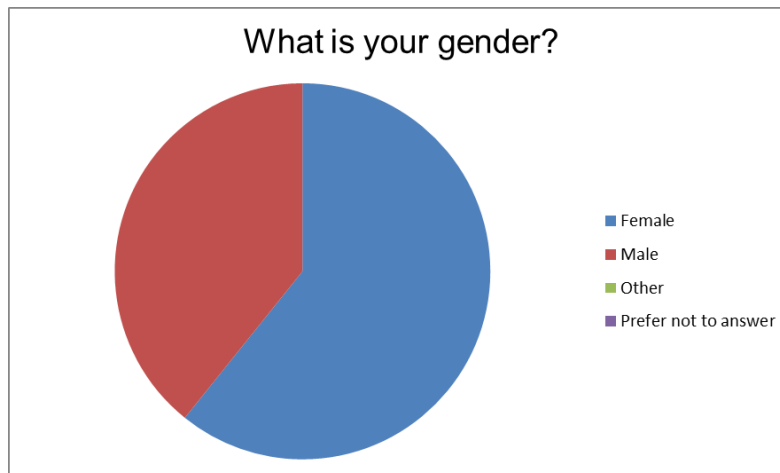
## Appendix B

### Pre-Survey Results

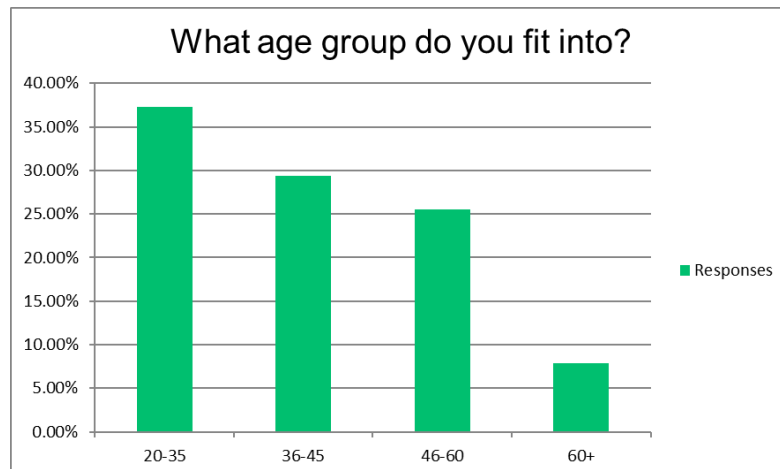
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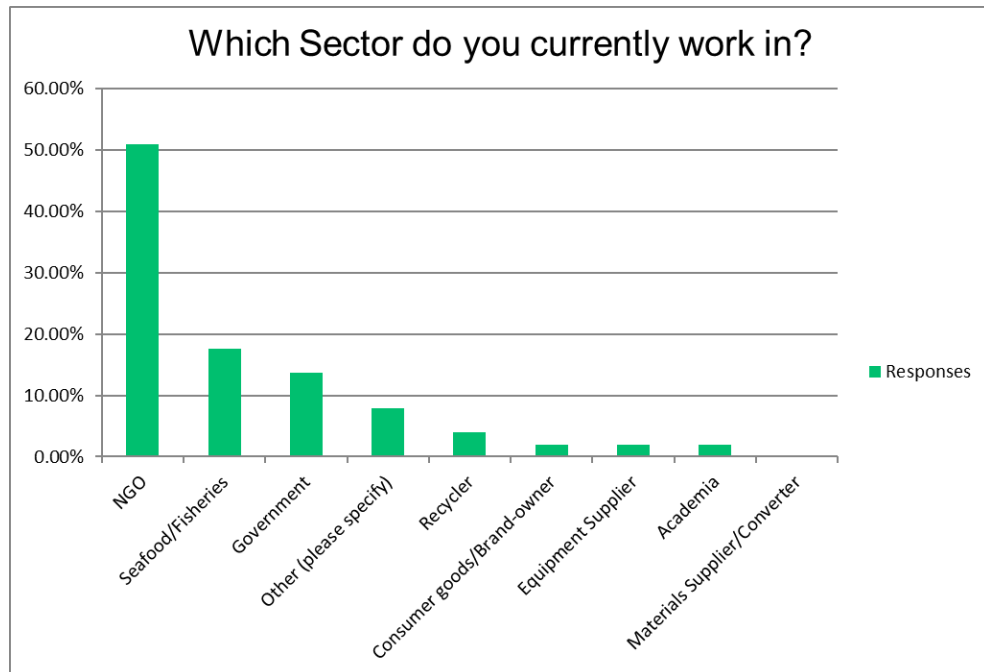
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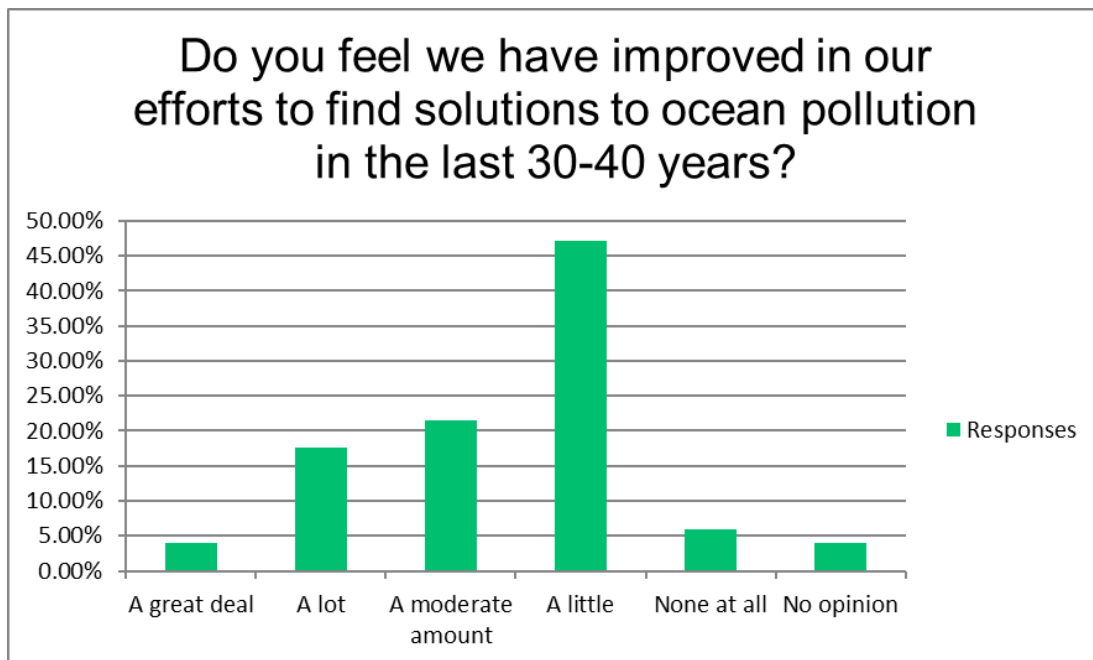
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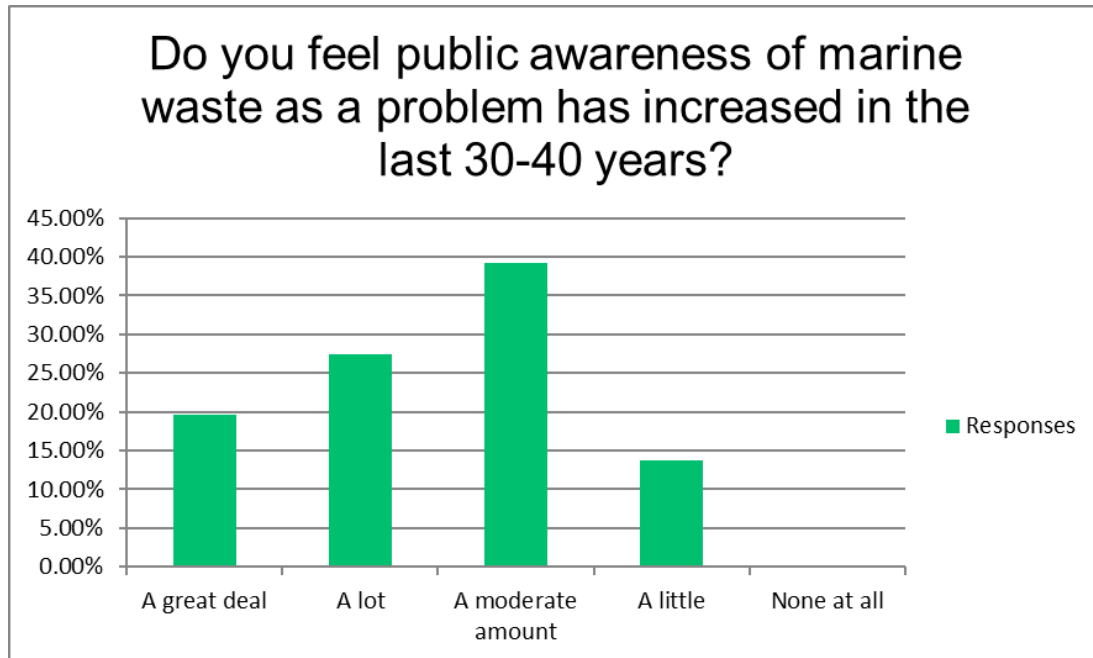


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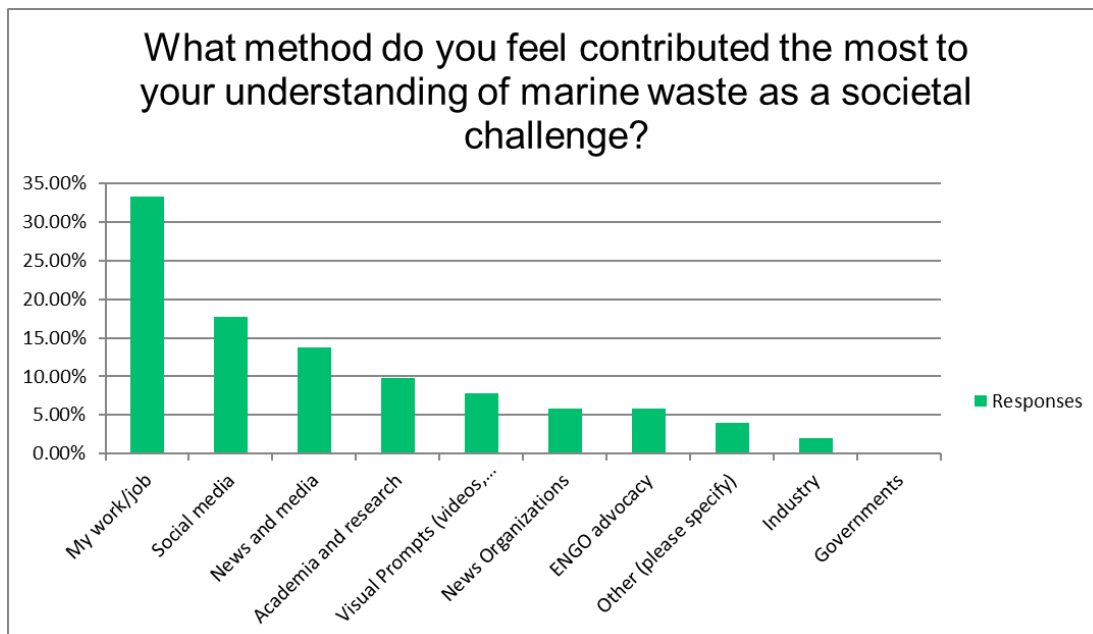




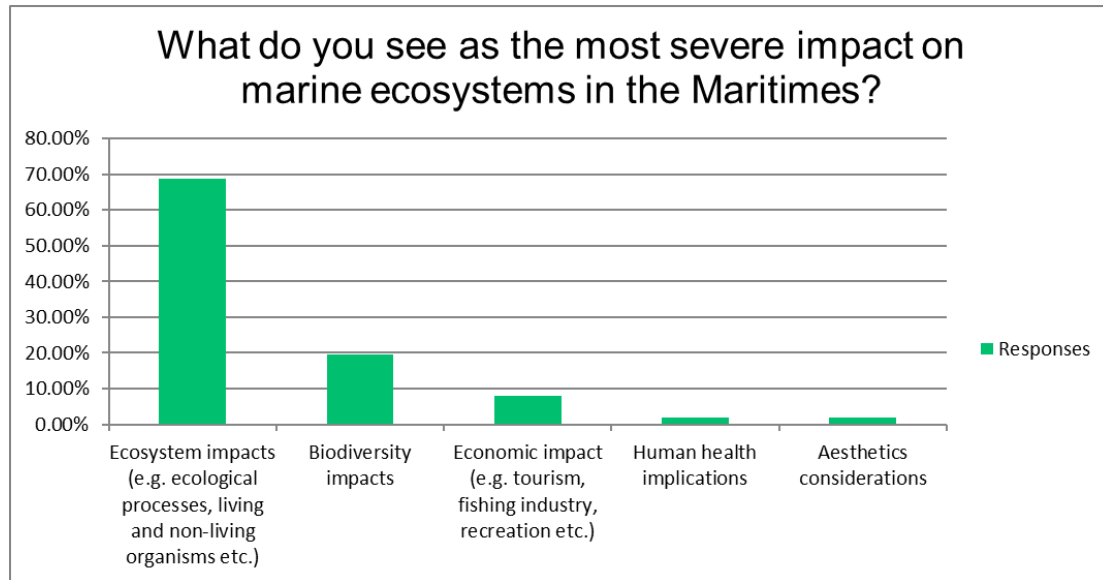
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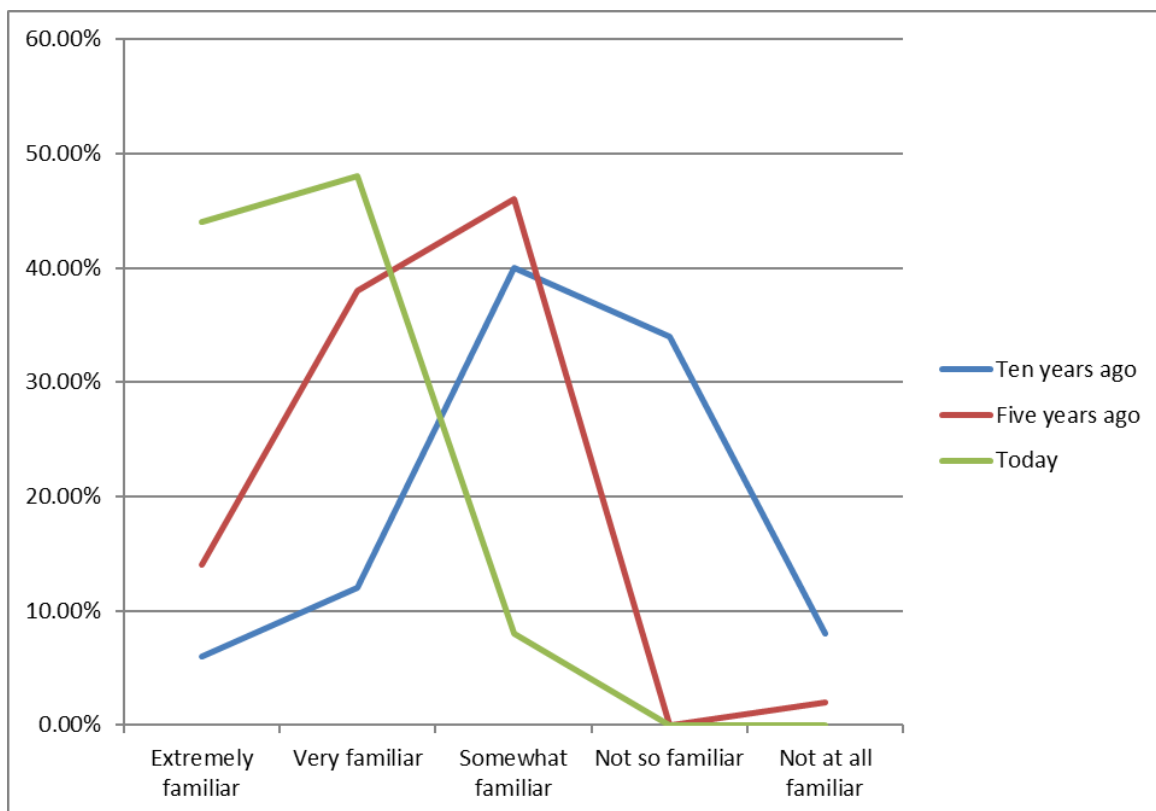
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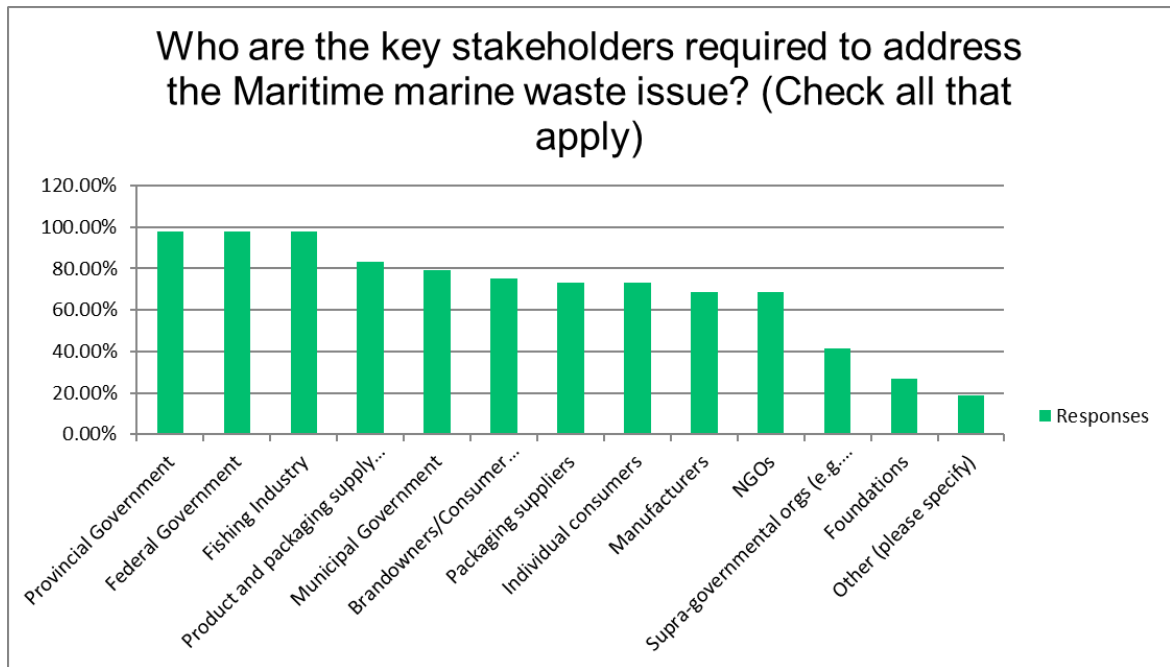
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9. How aware were you of the challenges created by marine waste at these stages of your life? (see time spans below)



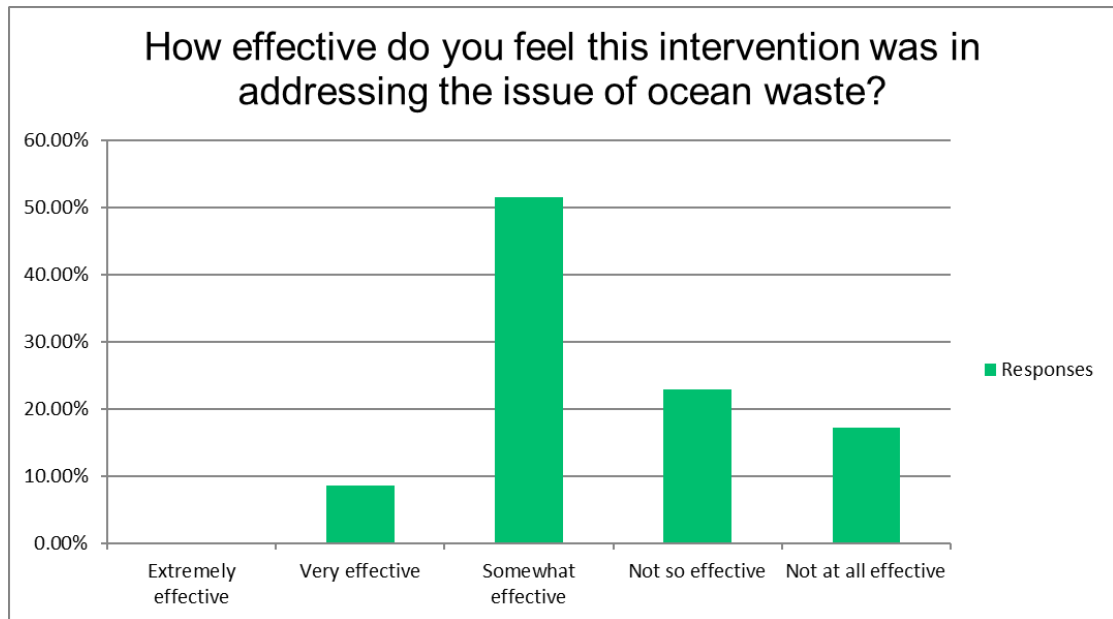
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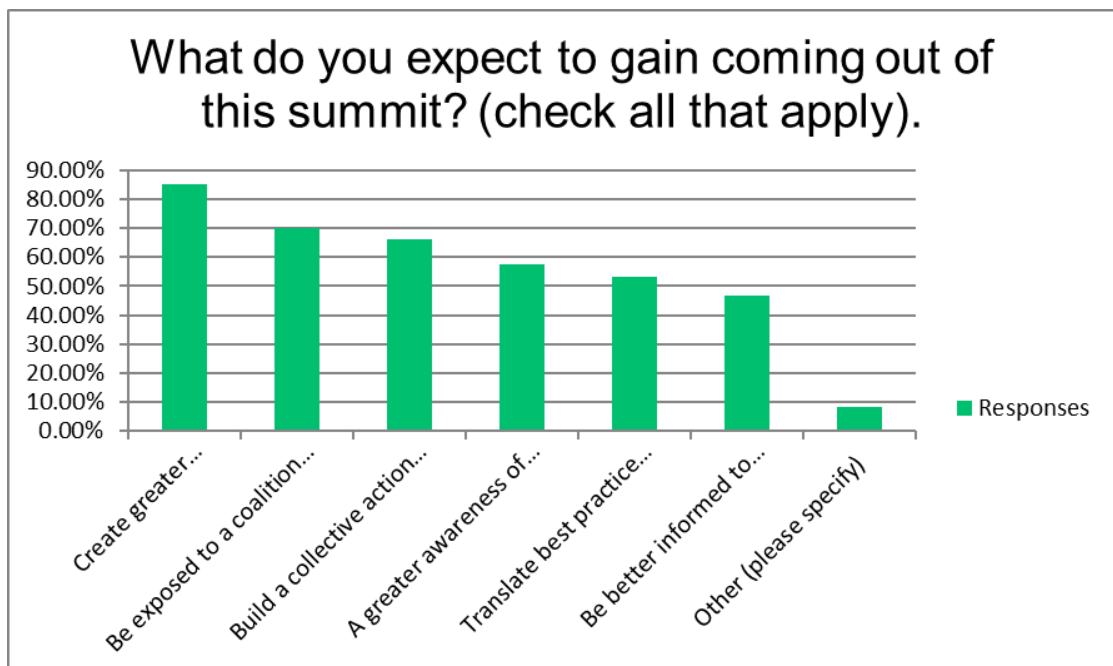
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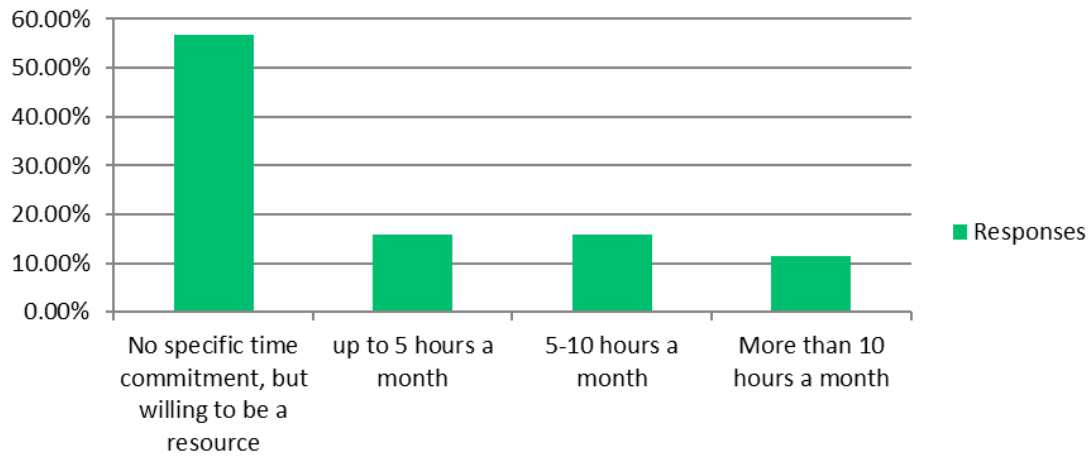


Create greater collaboration between key stakeholders to devise and implement solutions  
 Be exposed to a coalition of like-minded people engaging with this issue and resources to draw upon  
 Build a collective action plan that we can all contribute to  
 A greater awareness of ocean waste solutions and what they involve  
 Translate best practice frameworks into actionable concepts that I can put to practice in my own community and/or workplace  
 Be better informed to liaise with elected officials about policy

14.

Other (please specify)

How much time are you able and willing to contribute towards outcomes and actions after the summit has concluded?





## Appendix C

### Summit Pre-Reading/Viewing

*Hello friends,*

*Recognizing the many different organizations and communities you collectively represent, we wanted to provide some preparatory reading to help spur ideas about how to tackle the challenges of waste fishing gear and ocean plastics.*

*Since you've agreed to join us at the Clean Ocean Summit, we're taking it as a given that you're already well aware that there is a problem, so we haven't provided any resources with facts and figures about the scale of the issue.*

*Instead, we've provided a small selection of resources that provide different approaches to addressing the problem, in order to help stimulate your thinking on the issue. We've organized the resources by topic. They're all either short articles, short excerpts of larger pieces, or short videos.*

*In compiling these resources, we wanted to give you a sense of the breadth and variety of strategies that have been developed to address ocean waste. There may well be disagreement within the group as to the merits of some of these strategies, either for application in the Maritime context, or in general. In fact, we hope that they will stimulate some lively discussion.*

*Happy reading!*

*The Clean Ocean Summit Team*

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#### General (15 minutes)

1. **Charlevoix Ocean Plastics Charter.** (2018). (<https://g7.gc.ca/wp-content/uploads/2018/06/OceanPlasticsCharter.pdf>)
  - Commitments to support a more resource-efficient and sustainable approach to plastics management, endorsed by the Governments of Canada, France, Germany, Italy, the United Kingdom, and the European Union at the G7 Charlevoix Summit in June 2018.
  - Suggested reading: entire document.
  - Estimated reading time: 5 minutes.
2. **Joint Statement between the Government of Canada and the Government of the People's Republic of China on Marine Litter and Plastics.** (2018). (<https://pm.gc.ca/eng/news/2018/11/14/joint-statement-between-government-canada-and-government-peoples-republic-china>)
  - Describes the intention by the Governments of Canada and the People's Republic of China to collaborate to share information and best practices to manage marine litter.
  - Suggested reading: entire document.
  - Estimated reading time: 5 minutes.
3. **Moving Canada toward zero plastic waste: what we heard from you.** (2018). Government of Canada. (<https://www.canada.ca/en/environment-climate-change/services/managing-reducingwaste/consultations/moving-toward-zero-plastic-waste/what-we-heard.html>)
  - High-level summary of the results of the government's public consultation on "Moving Canada Toward Zero Plastic Waste".

- Suggested reading: entire document.
- Estimated reading time: 5 minutes.

### Clean-ups (15 minutes)

1. **Building a Clean Swell: 2018 Report.** (2018). International Ocean Conservancy & the International Coastal Cleanup. (<https://oceanconservancy.org/wp-content/uploads/2018/07/Building-A-Clean-Swell.pdf>)
  - Report on the findings and impacts from last year's round of worldwide coastal cleanups.
  - Suggested reading: pp. 12-13 "Data Spotlight" and "Top 10 Items Collected".
  - Estimated reading time: 5 minutes.
2. **About The Ocean Cleanup.** (undated). The Ocean Cleanup. (<https://www.theoceancleanup.com/about/>)
  - Description of an initiative to build and test a floating, passive plastic ocean collector.
  - Suggested reading: entire webpage.
  - Estimated reading time: 5 minutes.
3. **Plastic pollution: seaside communities coming together will save us – not technology.** (July 25, 2018). The Conversation. (<https://theconversation.com/plastic-pollution-seaside-communities-coming-together-will-save-us-nottechnology-100190>)
  - Posits that community-based efforts to clean up shoreline plastics will have more impact than technological fixes such as The Ocean Cleanup.
  - Suggested reading: entire article.
  - Estimated reading time: 5 minutes.

### Education (13 minutes)

1. **A Canadian Ocean Literacy Strategy: Development Plan: Draft 2.** (2018). Canadian Ocean Literacy Coalition. (<http://www.canadianoceanliteracycoalition.ca/files/ocean-literacy-strategy.pdf>)
  - Draft development plan assembled to guide the creation of a Canadian Ocean Literacy Strategy that will advance youth and adult understanding of the critical role oceans play in all dimensions of society (e.g., environmental, scientific, cultural, social, & economic).
  - Suggested reading: pp. 4-5, "2. Defining Ocean Literacy" and pp. 16-18, "Appendix D: Ocean Literacy Definition, Considerations and Principles."
  - Estimated reading time: 8 minutes.
2. **Plastic Education Kit: A Resource Guide for Teachers Leading Change Grades 10-11.** (2018). Ocean School. (<http://plasticsedkit.ocean.org/files/High%20school%20TEACHERS%20Resource%20Guide.pdf>)
  - Set of resources to assist high school teachers in helping students understand the impacts of waste plastic on our oceans, and what they can do to help create change.
  - Suggested reading: pp. 1-2, "Why it Matters"; and one lesson plan on a topic that appeals to you.
  - Estimated reading time: 5 minutes.

## Fishing Gear (22 minutes)

1. **Best Practice Framework for the Management of Fishing Gear.** (2016). Global Ghost Gear Initiative. ([https://static1.squarespace.com/static/5b987b8689c172e29293593f/t/5bb64b578165f5891b931a6b/1538673498329/wap\\_gear\\_bp\\_framework\\_part\\_2\\_mm\\_lk-2017.10.23.pdf](https://static1.squarespace.com/static/5b987b8689c172e29293593f/t/5bb64b578165f5891b931a6b/1538673498329/wap_gear_bp_framework_part_2_mm_lk-2017.10.23.pdf))
  - Best practice guidance developed by the GGGI on managing fishing gear at the different stages of its life, to be used to influence government and industry policy and practice to ensure enhanced mitigation of the ghost gear problem globally.
  - Suggested reading: pp. 8-9 “1.1 Background” and “1.2 Purpose of this Framework”; pp. 12-13 “Structure of the Framework” and “Stakeholders Addressed by these Guidelines”; and the section or sections of the framework that speak to the sector(s) that you and/or the organization you represent.
  - Estimated reading time: 15 minutes.
2. **Ghost Gear Retrieval Project.** (Undated). Fundy North Fishermen’s Association. (<https://www.fundynorth.org/opp>)
  - Summary of efforts led by members of the Fundy North Fishermen’s Association retrieve lost fishing gear.
  - Suggested reading: entire document.
  - Estimated reading time: 3 minutes.
3. **Steveston Harbour (Canada) net recycling initiative.** (2015). Global Ghost Gear Initiative. (<https://www.youtube.com/watch?v=FY1Pk82emZo>)
  - Description of an innovative fishing net recycling project piloted out of the Steveston Harbour in British Columbia.
  - Suggested viewing: entire video.
  - Estimated viewing time: 4 minutes.
  -

## Plastics Reduction (18 minutes)

1. **The Tough Truths about Plastic Pollution.** (2019). TED. ([https://www.ted.com/talks/dianna\\_cohen\\_tough\\_truths\\_about\\_plastic\\_pollution](https://www.ted.com/talks/dianna_cohen_tough_truths_about_plastic_pollution))
  - Artist Dianna Cohen shares some tough truths about plastic pollution in the ocean and in our lives -- and some thoughts on how to free ourselves from the plastic gyre.
  - Suggested viewing: entire video.
  - Estimated viewing time: 5 minutes.
2. **Unpacking PEI’s Plastic Bag Ban.** (June 8, 2018). CBC News. (<https://www.cbc.ca/news/canada/prince-edward-island/pei-plastic-bags-ban-exemptions-1.4697663>)
  - Summarizes the highlights of PEI’s Plastic Bag Reduction Act, which will come into force in July 2019.
  - Suggested reading: entire article.
  - Estimated reading time: 3 minutes.
3. **Single-use plastics ban approved by European Parliament.** (Oct. 24, 2018). BBC News. (<https://www.bbc.com/news/world-europe-45965605>)
  - Summarizes the highlights of the EU’s legislative ban on a range of single-use plastics, which will likely come into effect in 2021.
  - Suggested reading: entire article.

- Estimated reading time: 3 minutes.
4. **Banning Straws and Bags Won't Solve our Plastic Problem.** (Aug. 16, 2018). World Resources Institute. (<https://www.wri.org/blog/2018/08/banning-straws-and-bags-wont-solve-our-plastic-problem>)
    - Provides some counterpoints to the movement to ban single use plastic items like bags and straws.
    - Suggested reading: entire article.
    - Estimated reading time: 7 minutes.

### Plastics Upcycling / Plastics Innovation (21 minutes)

1. **The Surprising Solution to Ocean Plastic.** (2017). TED. ([https://www.ted.com/talks/david\\_katz\\_the\\_surprising\\_solution\\_to\\_ocean\\_plastic?language=en](https://www.ted.com/talks/david_katz_the_surprising_solution_to_ocean_plastic?language=en))
  - David Katz, founder of the Plastic Bank, discusses social plastic as currency, and how one solution to ocean plastic can also create an income stream for the world's impoverished citizens and communities.
  - Suggested viewing: entire video.
  - Estimated viewing time: 12 minutes.
2. **About the Circular Ocean Project.** (undated). Circular Ocean. (<http://www.circularocean.eu/about/>)
  - Describes a 3-year project to drive innovative approaches to retrieving and upcycling waste ocean plastics, and especially fishing nets, in the Northern Periphery and Arctic region (UK, Greenland and Norway).
  - Suggested viewing: entire video.
  - Estimated viewing time: 2 minutes.
3. **Untangling Our Oceans.** (2018). Bureo. (<https://vimeo.com/271377001>)
  - Describes a business model where local fishers gather old fishing gear and provide it to a company that upcycles the plastic into products such as skateboards and sunglasses.
  - Suggested viewing: entire video.
  - Estimated viewing time: 4 minutes.
4. **13 Bioplastic Innovations That Might Save the Environment.** (2018). Interesting Engineering. (<https://interestingengineering.com/13-bioplastic-innovations-that-might-save-the-environment>)
  - Overview of 13 new polymers made from bio-based precursors such as sugar, rice starch, and shrimp shell chitin.
  - Suggested reading: full video.
  - Estimated viewing time: 3 minutes

## Appendix D

### Summit Agenda

#### Sunday, November 25th

**Algonquin Resort Check-in** (4pm-7:30pm)

**Optional Reception** (7:30-9pm; Right Whale Pub)

#### Monday, November 26th

**Breakfast & Summit Check-in** (8am-9am; Shaughnessy Ballroom)

*Morning session* (9am-12pm; Shaughnessy Ballroom)

- Opening Prayer from Peskotomuhkati Nation
- Presentation by Global Ghost Gear Initiative (GGGI)
- Lightning round talks
- Break (10:45am-11:15am)
- Work session planning & design
- Environment & Climate Change Canada (ECCC): Summary of the public consultation

**Lunch** (12pm-1:15pm; Shaughnessy Ballroom)

*Afternoon session* (1:15pm-5:30pm; Shaughnessy Ballroom & various meeting rooms)

- Working group sessions (Problem Definition, Stakeholder Mapping, Actionable Solution Framework – Ambassadors from the Future)
- Day in Review

**Dinner** (6:30pm-8:30pm; Shaughnessy Ballroom)

- Dress: Business Casual
- Presentation by ECCC on Federal Initiatives

#### Tuesday, November 27th

**Breakfast** (7am-8am; Shaughnessy Ballroom)

*Morning session* (8am-12:30pm; Shaughnessy Ballroom; Break-out spaces)

- Working sessions: Action Planning & Framework
- Break & Algonquin Resort check-out (10am-10:30am)
- Sub-group presentations to plenary group, discussion and refinement

**Lunch & Where to From Here** (12:30pm-1:30pm; Shaughnessy Ballroom)

- Summit Wrap-up and Closing Prayer from Peskotomuhkati Nation

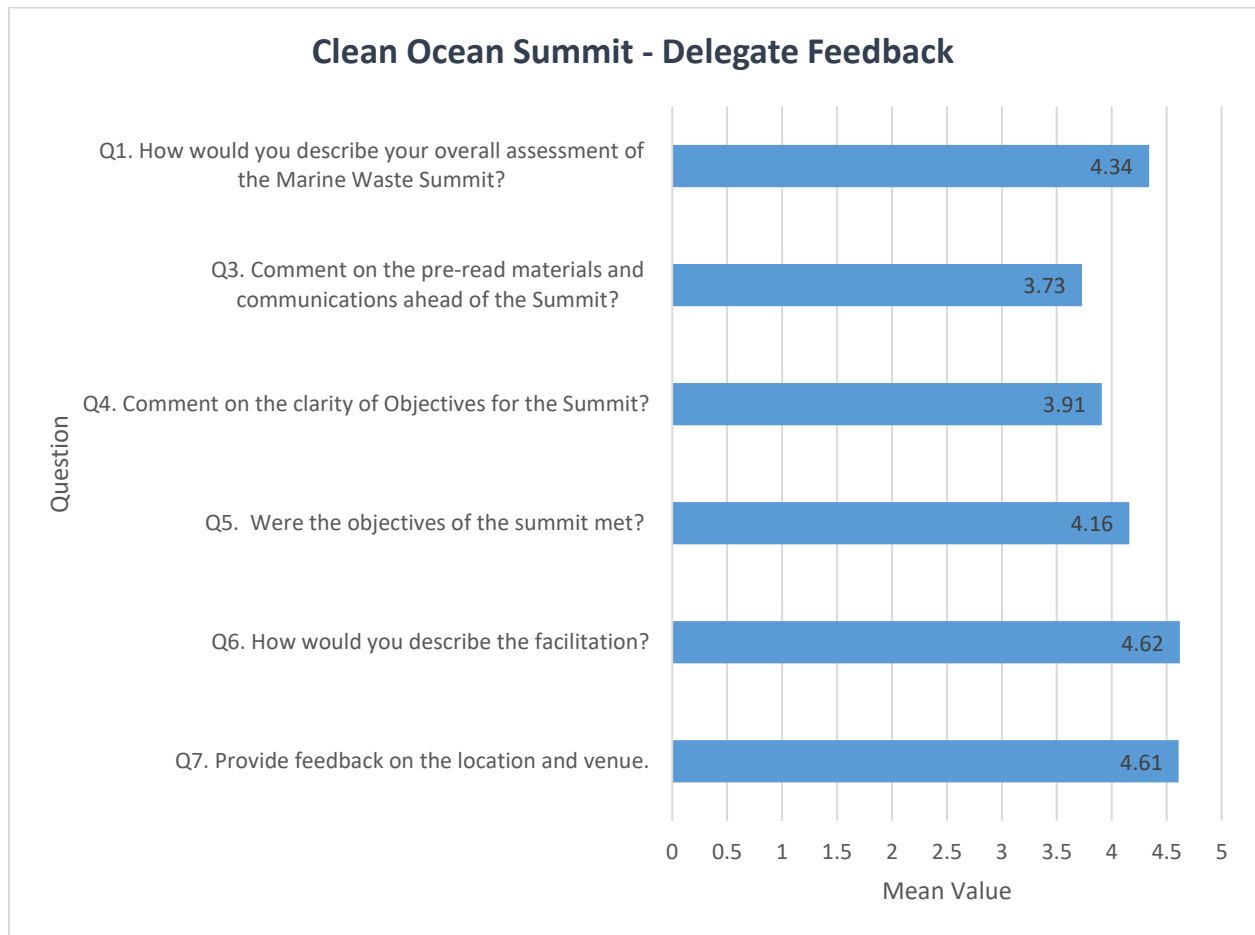
*Logistical Notes:*

- *In order to maximize the full potential of the Summit, it is our fervent hope that all participants will be able to make arrangements to attend until at least 12:30 pm on Tuesday, November 27th.*
- *The expectation is that, to participate fully, delegates will turn off or silence all devices. Time has been provided during the breaks and lunch for non-Summit work.*
- *Bilingual facilitation will be available on an as-required basis. The working sessions and presentations will be conducted in English.*
- *Excepting the banquet dinner, summit dress is generally considered to be “business comfortable”. For the dinner, no formal dress is required, but Business Casual would be appreciated.*

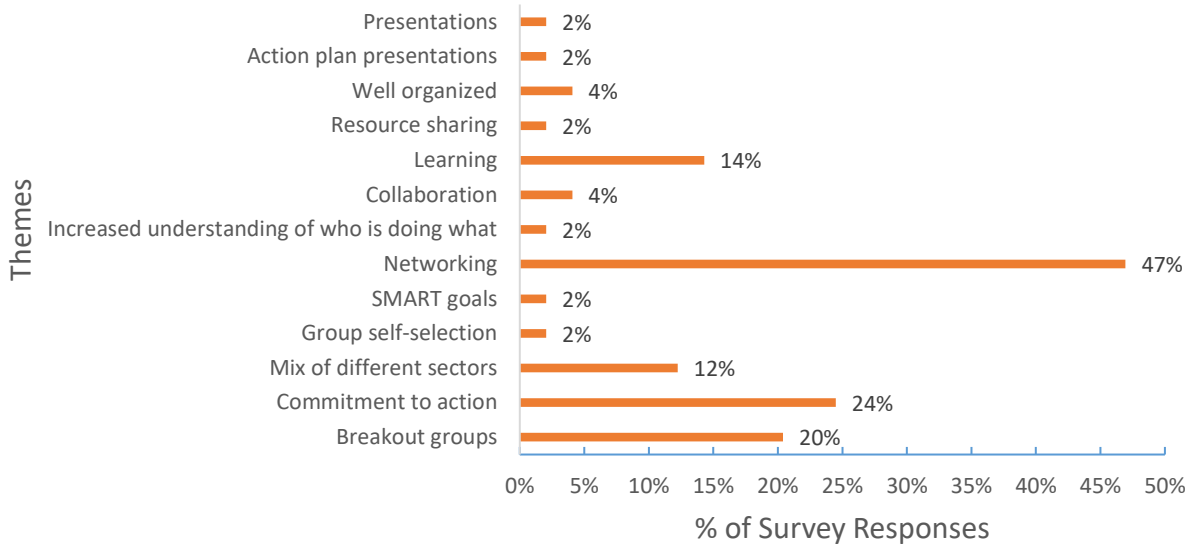


## Appendix E

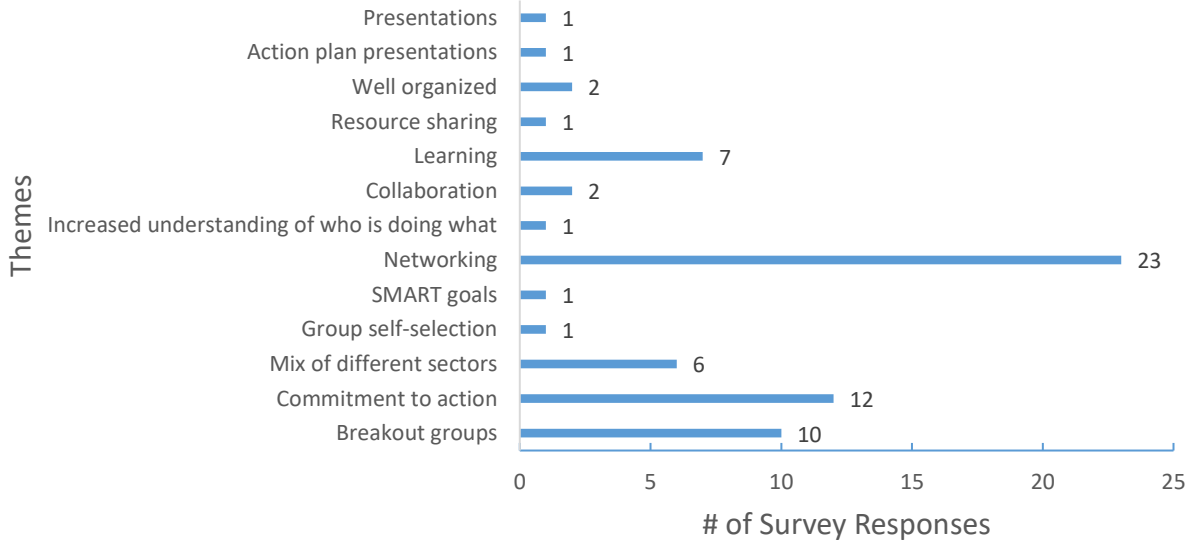
### Delegate Feedback



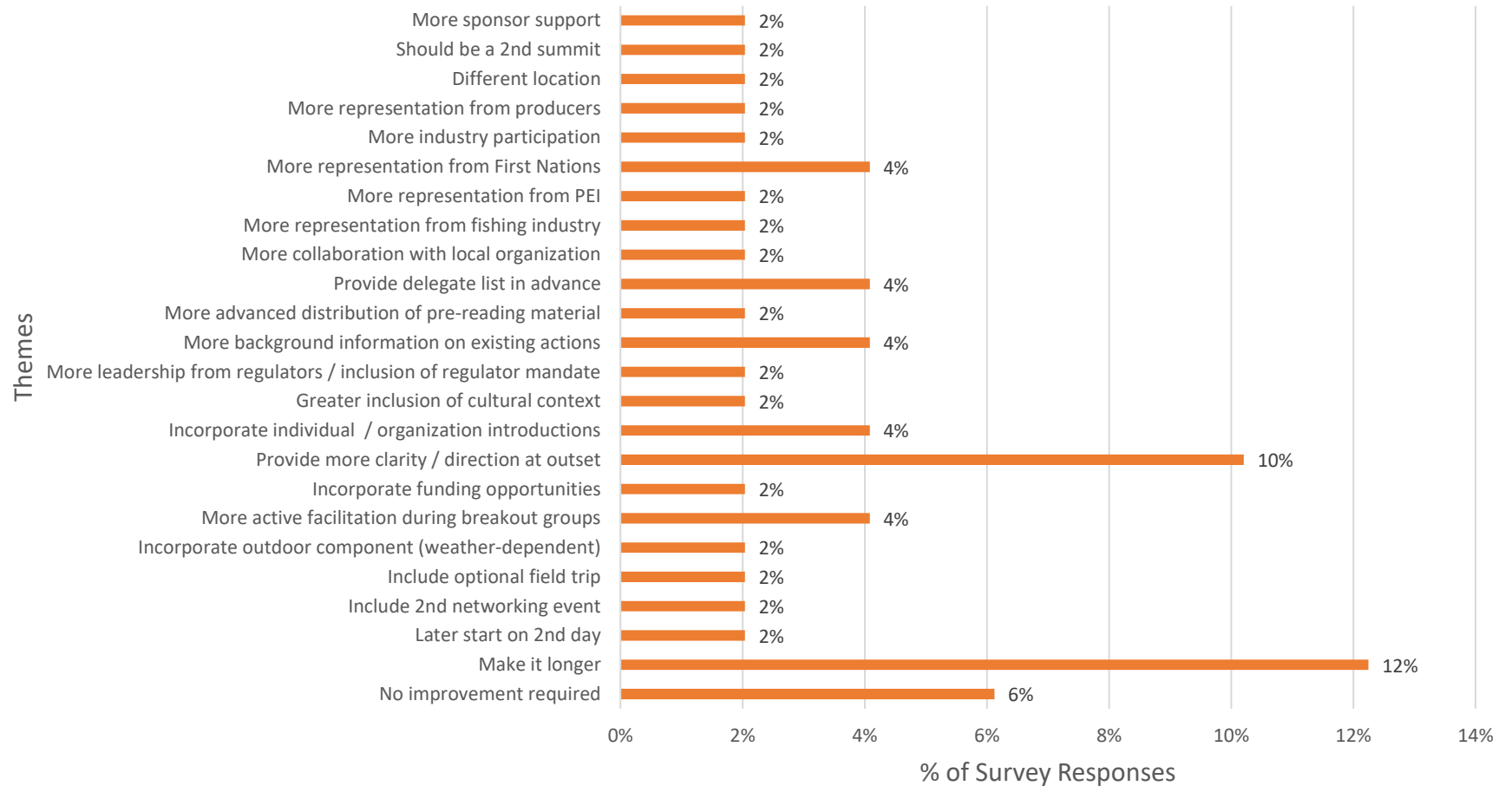
## Q2. What was the most useful part of the Marine Waste Summit?



## Q2. What was the most useful part of the Marine Waste Summit?



### Q8. What could be improved? What was missing?



### Q8. What could be improved? What was missing?

