



**GLOBAL
GHOST GEAR
INITIATIVE®**

2019 ANNUAL REPORT

HONORING MARTIN COOKE



Photo credit: Joel Baziuk

This report is dedicated to our dear friend and colleague, Martin Cooke, Head of Corporate Engagement at World Animal Protection, who passed away in November 2019 after a battle with cancer. Martin's work building support for the Global Ghost Gear Initiative® (GGGI) with numerous corporate members helped to make the GGGI what it is today.

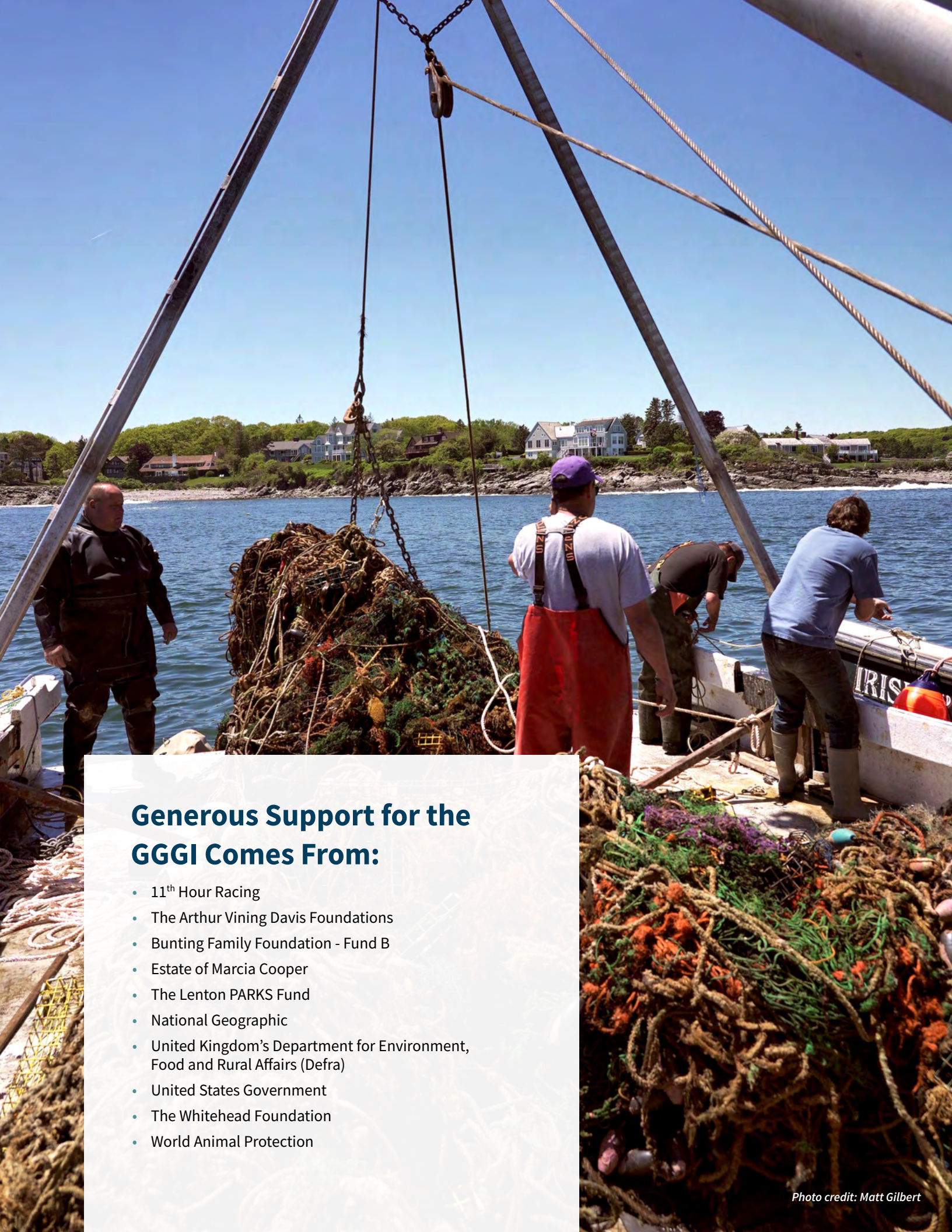
Dr. Darian McBain, Global Director of Corporate Affairs & Sustainability at Thai Union, said, "Martin is the reason [Thai Union] came into the GGGI. I continued to email and chat with him throughout the years. He was a fountain of knowledge, and such a lovely person. My thoughts are with his family and loved ones."

We at the GGGI owe him a debt of gratitude for his wisdom, tenacity and collaborative nature. He will be dearly missed by us all.



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Generous Support for the GGGI Comes From:

- 11th Hour Racing
- The Arthur Vining Davis Foundations
- Bunting Family Foundation - Fund B
- Estate of Marcia Cooper
- The Lenton PARKS Fund
- National Geographic
- United Kingdom's Department for Environment, Food and Rural Affairs (Defra)
- United States Government
- The Whitehead Foundation
- World Animal Protection

Photo credit: Matt Gilbert

FOREWORD

In 2019, the Seafood Business for Ocean Stewardship initiative (SeaBOS) joined the Global Ghost Gear Initiative[®] (GGGI), the world's only global platform for tackling abandoned, lost and discarded fishing gear (ALDFG), also known as ghost gear.

SeaBOS connects the global seafood business to science, connects wild capture fisheries to aquaculture, and connects European and North American companies to Asian companies.

Through collaboration with the GGGI, SeaBOS continues to work towards our ambition of leading a global transformation towards sustainable seafood production and a healthy ocean.

While some SeaBOS members like Thai Union were already taking steps independently to address ghost gear in their supply chains and fleets, joining the GGGI represented a significant commitment by 10 of the world's largest seafood companies to taking a united approach to tackling the issue. United not just in our industry, but across all industries and stakeholder groups that the GGGI brings together: academia, government, intergovernmental and nongovernmental organizations, and the private sector.

Already aligned in their mission to lead a global transformation towards sustainable seafood production and a healthy ocean, SeaBOS and its members have signalled that urgent action must be taken to address the serious threat that is ghost gear. The time is now.

Joining GGGI's more than 100 participants, the SeaBOS companies committed to the initiative include Maruha Nichiro, Nissui, Thai Union, Mowi ASA, Dongwon, Skretting, Cargill, Cermaq, Kyokuyo, and Charoen Pokphand Foods (CPF).

Our mission is no longer an opportunity – it is a requirement. Our ocean is under threat from all angles – climate, plastic pollution, overfishing and illegal fishing, with ghost gear being one of the most severe.

Failure to act puts the future of the ocean and the life within in jeopardy.

SeaBOS is pleased to partner with the GGGI, the world's premier body to tackle ghost gear, to help remove, reduce, redesign fishing gear, and promote new practices to achieve positive and sustainable ocean health outcomes.

This report highlights the GGGI's key achievements in 2019, and demonstrates the unstoppable momentum the initiative has created in pushing ghost gear further up the global agenda on ocean protection.

I call on the wider seafood industry to make 2020 a year of united action on ghost gear. Join the GGGI and help make our ocean cleaner, healthier and safer for all.

MARTIN EXEL
Managing Director, SeaBOS

IN MEMORIAM: JOANNA TOOLE

2019 was a significant year for the GGGI in many ways. Perhaps none so great as the loss of our dear friend and colleague, Joanna (Jo) Toole. Jo was tragically killed when Ethiopian Airlines flight 302 crashed on its way from Addis Ababa to Nairobi on March 10, 2019. Jo was a rising star in the environmental community, fighting against the impacts of ghost gear around the globe and a champion for the GGGI until the very end.

As one of the co-founders of the GGGI, Jo's legacy lives on in our work. In particular, we have worked with the Joanna Toole Foundation and many of Jo's colleagues to help establish two bodies of work which will honor her memory going forward: The Joanna Toole Ghost Gear Solutions Award and The Joanna Toole Internship.

The first annual Joanna Toole Ghost Gear Solutions Award, issued by World Animal Protection and the Joanna Toole Foundation alongside the GGGI, received dozens of submissions. In late 2019, two winners were announced.

The first award was given to the International Pole and Line Foundation (IPNLF), which will be working in collaboration with the Olive Ridley Project to implement a pilot project in the Maldives, incentivizing Maldivian fishers to remove ghost nets they encounter during their fishing operations.

The second award was given to the Nigeria-based Stand Out For Environment Restoration (SOFER) Initiative. The grant will contribute to their "Fishing Net Gains Nigeria" Project, which engages local fishing communities on best practices for reducing ghost gear through end-of-life gear management, and removal of lost gear. The grant will cover work in Nigeria, Cameroon and Ghana.

The Joanna Toole Internship was set up by Ocean Care, the Joanna Toole Foundation, and Ocean Conservancy on behalf of the GGGI to further Joanna's legacy on ghost gear. The goal of the internship is to support aspiring young female leaders pursuing a career in ocean conservation and to inspire generations to come to protect our ocean from the ghost gear threat. Applications opened at the end of 2019, and the first recipient will carry out a six-month internship in 2020 split between Ocean Conservancy and the Center for Coastal Studies for fieldwork.

These initiatives are just a few ways in which Joanna's legacy will live on through the GGGI. Her passion and dedication to improving the health of the ocean and the animals who depend on it are an inspiration for all of us today and every day.



Photo credit: World Animal Protection

OVERVIEW OF GHOST GEAR AS A GLOBAL ISSUE

The ocean is critical to our survival. It provides mankind with food, employment, and even regulates the weather. But as humans, we have been biting the hand that feeds us. An ocean cluttered with marine debris, including ghost gear, will have decreased capacity to perform these vital roles going forward.

Abandoned, lost or otherwise discarded fishing gear (ALDFG), also known as “ghost gear,” is the most harmful form of marine debris, and an increasingly pervasive problem. In addition to affecting 40% of all known marine mammal species, many of which are included on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species,¹ ghost gear also compromises yields and income from our fisheries, creating higher costs for companies sourcing fish and threatening global food security.

Over a decade ago, it was estimated that at least 640,000 metric tons of fishing gear are lost or abandoned in the ocean each year.² New research conducted over the last few years has suggested that this number is likely to be much higher today. With increased global attention on the issue of ghost gear, there have been ongoing attempts to better quantify the amount of gear lost in the ocean every year. Recent studies have suggested that between 46%³ - 70%⁴ of floating macroplastics is fishing related when measured by weight. This is

also likely to be just the tip of the proverbial iceberg, as the majority of lost gear is likely to be subsurface (lost pots/traps, nets snagged on reefs/wrecks/rocks, etc.), where it is much more difficult to quantify.

There is much more research yet to be done to fully understand the scale of the issue worldwide. The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) Working Group 43 on Sea-based Sources of Marine Litter, jointly hosted by the International Maritime Organization (IMO) and the United Nations Food and Agriculture Organization (FAO), is building a broader understanding of marine sources of plastic and other debris, in particular from the shipping and fishing sectors.

The GESAMP Working Group will develop an estimate of the relative contribution of sea-based sources of marine litter, analyze the quantity and category of plastics produced and used, identify ghost gear hotspots, further quantify the environmental and economic impacts, and review and compare options for mitigating the problem.

BUILDING MOMENTUM

In parallel with the growing evidence of the magnitude and importance of ghost gear, 2019 saw increased interest and engagement with the GGGI

and its membership, and increased action on ghost gear across the stakeholder spectrum.

There are now more countries taking direct action on ghost gear, including Canada, which joined the GGGI in 2018. In 2019, Canada launched its Sustainable Fisheries Solutions & Retrieval Support Contribution Program (a.k.a. the Ghost Gear Fund) valued at CAD \$8.3 million, marking the first time a national government has dedicated a specific grant program entirely to domestic and international ghost gear prevention and mitigation strategies. Montserrat, which joined the GGGI in 2019, consulted with the GGGI and in 2019 included ghost gear considerations in their new Fisheries, Aquaculture and Ocean Resources Management Plan. Norway joined the GGGI in 2019 at the Our Ocean Conference, wanting to share and replicate some of its long standing best practice examples of addressing ghost gear with other nations.

In December, 2019, IMO and FAO launched the innovative GloLitter Partnerships Project. With initial funding from the Government of Norway, the GloLitter Partnerships Project is focused on addressing sea-based sources of marine debris,

part of which will concentrate on developing and implementing ghost gear prevention and mitigation strategies around the world.

On the private sector side, ghost gear is now being referenced at nearly every major seafood and ocean sustainability event, which is a watershed change from just a couple of years ago. In addition, increased engagement from new GGGI members and major players within the fishing industry – such as the Seafood Business for Ocean Stewardship (SeaBOS), and Joseph Robertson – and from the retail and hospitality sector including Co-Op UK, Darden Restaurants, and Red Lobster – shows that ghost gear has moved from a niche issue to being a core consideration for seafood sustainability.

To continue its holistic and comprehensive approach to addressing ghost gear, the GGGI has recognized that the issue goes beyond wild capture fisheries and that the aquaculture sector also needs to be engaged. To fill this gap, the GGGI is currently developing a Best Practice Framework (BPF) for the Management of Aquaculture Gear due for release in 2021 to accompany the existing wild capture BPF.



Photo credit: Shin Arunrugstichai

¹Werner, S. et al. *Harm caused by Marine Litter – European Commission. JRC Technical Report (2016). doi:10.2788/690366*

²Macfadyen, G., Huntington, T., Cappell, R. *Abandoned, lost or otherwise discarded fishing gear. UNEP Regional Seas Reports and Studies, No. 185; FAO Fisheries and Aquaculture Technical Paper, No. 523. Rome, UNEP/FAO. 2009. 115p.*

³Lebreton, L., Slat, B., Ferrari, F. et al. *Evidence that the Great Pacific Garbage Patch is rapidly accumulating plastic. Sci Rep 8, 4666 (2018). https://doi.org/10.1038/s41598-018-22939-w*

⁴http://wedocs.unep.org/bitstream/handle/20.500.11822/7720/-Marine_plastic_debris_and_microplastics_Global_lessons_and_research_to_inspire_action_and_guide_policy_change-2016Marine_Plastic_Debris_and_Micropla.pdf?sequence=3&isAllowed=y (Page 61)

The fishing gear technology sector – including GGGI members Blue Ocean Gear and ResqUnit – is growing with the emergence of numerous gear innovation technologies. At the recent Gear Innovation Summit in Halifax hosted by the Canadian government, the tech sector engaged with the fishing industry, government representatives, and other stakeholders to discuss and showcase technical solutions to the problem of gear loss and retrieval.

Adding to this unprecedented momentum is growing engagement from the academic community with numerous GGGI partners showing scientific leadership. The University for the Creative Arts – Centre for Sustainable Design has been running a series of fishing gear and circular design webinars, and is developing circular economy guidelines for gear design and options for end-of-life disposal. Hawaii Pacific University - Center for Marine Debris Research is working on a project to prevent ghost gear, in particular drifting Fish Aggregating Devices (dFADs) from impacting sensitive coral reefs and other habitats in the Hawaiian Islands. Heriot-Watt University – with support from the GGGI as well as GGGI members Sainsbury's and Young's Seafood – is hosting a PhD studying the effects of ghost gear and static deployed gear on marine ecosystems in the UK. The Italian National Institute for Environmental Protection and Research continues to implement its DeFishGear Project including data collection, fisher awareness raising campaigns and questionnaires, and ALDFG collection/recycling. And the University of California, Davis continues its Lost Fishing Gear Project conducted by the Karen C. Drayer Wildlife Health Center, working with fishers to collect hundreds of lost crab pots every year.

Smart solutions are coming from all quarters; and the global interest in tackling ghost gear is at an all-time high.

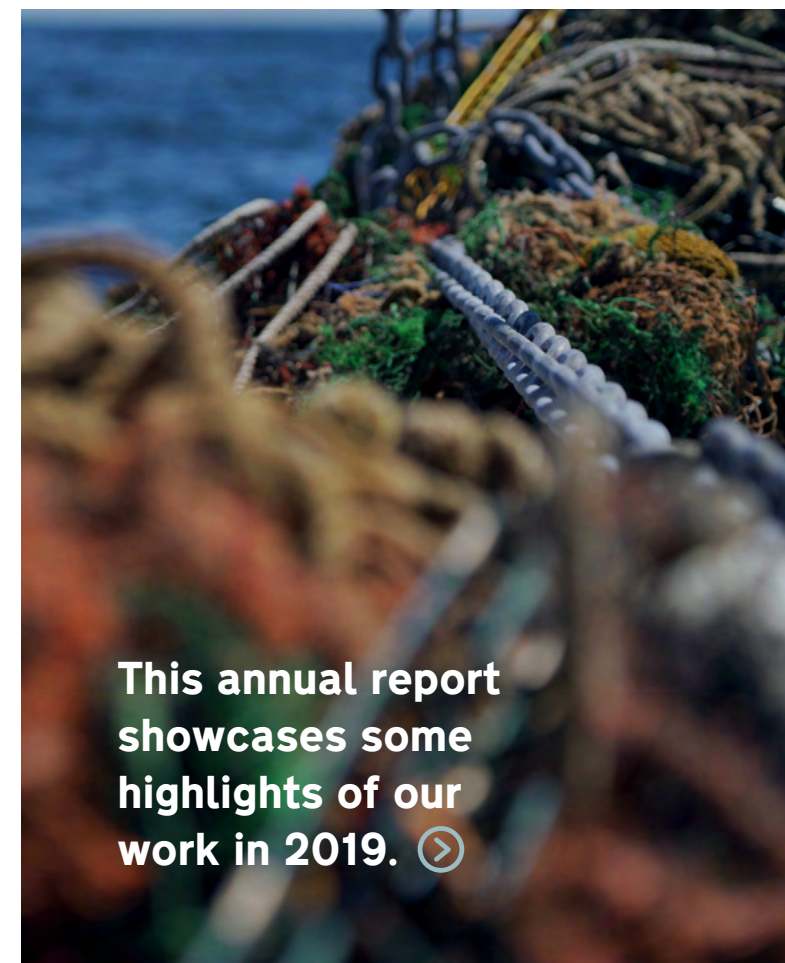
BUILDING ON A SOLID FOUNDATION

The GGGI was founded by World Animal Protection in 2015 and has been hosted by Ocean Conservancy – a long-time leader in the marine debris space – since January 2019. The GGGI is the only cross-sectoral

alliance driving solutions to the problem of ghost gear worldwide. It is also the lead platform under which the global community can unite to improve the health and productivity of the ocean, protect marine life from harm, and safeguard human health and livelihoods. The GGGI's work is focused on ghost gear, but also directly impacts the issues of marine plastics and global food security.

Now in its 5th year, the GGGI remains the global clearinghouse for information on ghost gear, informing policy processes in both the public and private sector, and catalyzing practical solutions for the removal and prevention of ghost gear.

The GGGI continues to progress towards its goal of contributing to a net reduction in ghost gear in the ocean by 2030 and supporting the delivery of UN Sustainability Development Goal (SDG) 14 by significantly reducing marine pollution of all kinds by 2025.



This annual report showcases some highlights of our work in 2019. ➔



Photo credit: Shin Arunrugstichai

“ The Government of Canada is committed to working with the GGGI, global partners, industry and communities to find real solutions to reduce ghost gear in our oceans, and have recently announced a new program to address this issue domestically and abroad. By participating as a GGGI member, we have been able to engage and build relationships with many different types of stakeholders and partners who are eager to share their knowledge and experience, which has allowed us to align our national program with the current global best practices. ”

GOVERNMENT OF CANADA

KEY ACHIEVEMENTS IN 2019

1 **16 new organizations and two new governments joined the GGGI.** In 2019, the GGGI grew significantly, with new organizations joining across many different sectors. Global corporations, including SeaBOS – which represents 10 of the largest seafood companies in the world – Red Lobster, Co-op UK, DSM Engineering Materials and Darden Restaurants joined the GGGI, looking to support projects around the world and incorporate best practices where applicable across their corporate policies and supply chains. In addition, we saw 11 other organizations join, including Blue Cycle, Blue Marine Foundation, Bracenet, Cape Breton Environmental Association, Hawaii Pacific University, Joseph Robertson, Manta Caribbean Project, Myanmar Ocean Project, OceanCare, Teem Fish and the University of California – Davis, furthering our capacity to directly implement solutions on the ground around the world. The governments of [Montserrat](#) and [Norway](#) became the fourteenth and fifteenth national governments to sign on to the GGGI at the Our Ocean Conference.

2 **We launched initiatives in memory of our colleague and GGGI co-founder Joanna Toole.** Joanna Toole was tragically killed in the March 2019 Ethiopian Airlines crash. Joanna was a tireless advocate for the ocean and we've sought to carry on her legacy. In October, Ocean Conservancy, alongside OceanCare, the Center for Coastal Studies and the Joanna Toole Foundation, launched the [Joanna Toole Internship](#) to support young women in ocean conservation. Alongside World Animal Protection and the Joanna Toole Foundation, we also supported the [Joanna Toole Annual Ghost Gear Solutions Award](#), which will fund projects dedicated to tackling ghost gear around the world.

3 As a signature activity in 2019, the GGGI alongside United Nations Food and Agriculture Organization (FAO) as their chosen/only civil society partner, [hosted 4 regional workshops on the GGGI's Best Practice Framework for the Management of Fishing Gear \(BPF\) and FAO's Voluntary Guidelines for the Marking of Fishing Gear \(VGMFG\).](#) These workshops were held in Vanuatu for the South Pacific region, Indonesia for the Southeast Asia region, Senegal for the West African region, and Panama for Latin America and the Caribbean. In total, over 200 participants from 101 countries participated in these workshops.

4 **We helped implement solutions on the ground.** We helped implement solution projects in Indonesia, Grenada, Jamaica, Myanmar and the United States. See project section on pages 18-23 below.

5 **We facilitated gear removals around the world.** The GGGI helped tackle ghost gear in Panama, Vanuatu, Myanmar and the Gulf of Maine. Notably, [the removal in Maine](#) yielded our biggest find in a single retrieval effort ever: a gear ball weighing over 20,000 pounds (or nearly ten metric tons) was collected and brought back to shore to be responsibly disposed of.

6 **We attended and spoke at a wide variety of high-profile conferences and forums.** The GGGI team was invited to speak at conferences and events around the world to bring further attention to the ghost gear issue. From the APEC Oceans and Fisheries Working Group Meeting in Chile to the ASEAN Regional Forum and US Department of State workshop in Vietnam, we helped shape high-level regional policies and shared our knowledge of the effects of ghost gear on the ocean and those who depend on it. We spoke at numerous high-profile seafood shows and events alongside GGGI corporate partners, including the North Atlantic Seafood Forum, Seafood Expo North America, and SeaWeb Seafood Summit. We also attended other global policy fora, including the Our Ocean 2019 Conference in Oslo and the High-Level Panel for a Sustainable Ocean Economy in Ottawa, where we had the chance to connect with key figures in the battle against ocean plastic and for sustainable fisheries.

7 **We raised public awareness of ghost gear through global mainstream media coverage.** As the issue of ocean plastic more broadly garnered attention, 2019 saw an influx of public interest in ghost gear. The GGGI was featured in [Forbes](#), while gear removals in Maine and Panama were covered by [the Associated Press](#) and [France 24](#), respectively.

8 **We streamlined the governance structure of the GGGI.** The former GGGI Steering Group, Project Review Board and Advisory Council merged to form [the GGGI Expert Advisory Council](#) – a focused technical advisory group. We appointed new Chairs and Coordinators for the three GGGI working groups – Build Evidence, Define Best Practice and Inform Policy, and Catalyze and Replicate Solutions – and expanded working group membership and participation.

9 **We found a new home at Ocean Conservancy.** In 2019, [Ocean Conservancy](#) assumed the lead partner role of the GGGI, affirming its long term commitment to the health of the platform and its commitment to tackling ghost gear.

2019 MEMBERSHIP

GOVERNMENTS (15)

	Canada		Kingdom of Tonga
	Dominican Republic		Montserrat
	Independent State of Samoa		New Zealand
	Kingdom of Belgium		Republic of Palau
	Kingdom of the Netherlands		Republic of Panama
	Kingdom of Norway		Republic of Vanuatu
	Kingdom of Sweden		Tuvalu
			United Kingdom of Great Britain and Northern Ireland

KEY AFFILIATES (5)

Commonwealth Scientific and Industrial Research Organisation (CSIRO)	OSPAR Commission
European Commission Directorate General for Maritime Affairs and Fisheries (EC DG MARE)	United Nations Environment Programme (UNEP)
	United Nations Food and Agriculture Organization (FAO)

MEMBERS (102)

Participation Status as of December 31, 2019

Joined in 2019

Aquaculture Stewardship Council
 Archipelago Marine Research
 Austral Fisheries
 Axiom Cycling Gear
Blue Cycle
Blue Marine Foundation
 Blue Ocean Gear
 Blue Ventures
Bracenet
 Bumble Bee Seafoods
 Bureo
 Calao Africa
Cape Breton Environmental Association
 Cet Law
 Claire Potter Design
 Clean Foundation Nova Scotia
Co-op UK
 Cornwall Seal Group
 Research Trust
Darden Restaurants
 Dolphin Swim Club
DSM Engineering Materials
 Ecotrust Canada
 Emerald Sea Protection Society
 Fathoms Free
 Fish21
 Fiskevegn AS
 Fourth Element
 Friend of the Sea
 Fundy North Fishermen's Association
 Ghost Fishing Foundation
 GhostNets Australia
 Gulf of Maine Lobster Foundation
 GWR Polymers

Hawaii Pacific University – Center for Marine Debris Research

Healthy Seas Initiative
 Humpback Whale Institute
 International Pole & Line Foundation
 Italian National Institute for Environmental Protection and Research
 Jealsa Rianxeria Group
Joseph Robertson
 KIMO International
 Lidl
 Local Independent Sea Anglers
 Lost Fishing Gear Project
Manta Caribbean Project
 Mare Nostrum
 Marine Conservation Society
 Marks & Spencer
 Monterey Bay Diving
Myanmar Ocean Project
 Natural Resources Consultants
 Neptune's Army of Rubbish Cleaners
 Nestlé
 Netgain Recycling
 Northern Prawn Fishery
 Northwest Straits Foundation
 Ocean Brands
OceanCare
 Ocean Conservancy
 Ocean Legacy Foundation
 Ocean Outcomes
 Ocean Recovery Alliance
 Ocean Wise
 Odyssey Innovation Ltd.
 Olive Ridley Project
 ORCA
 Pacific Islands Development Forum

Professional Association of Diving Instructors
 Parley for the Oceans
 Pelagic Data Systems
 Pew Charitable Trusts
 Planet Love Life
 Plastix Global
 Project AWARE
 Project GHOST
Red Lobster
 Sainsbury's
 Satlink
Seafood Business for Ocean Stewardship (SeaBOS)
 Sealcentre Pieterburen
 Sea Pact
 Secretariat of the Pacific Regional Environment Programme
 Stand Out For Environment Restoration
 Steveston Harbour Authority
 Surfers Against Sewage
 Surfriider Foundation Kaua'i
 Tangaroa Blue Foundation
 T Buck Suzuki Environmental Foundation
Teem Fish
 Tengah Island Conservation
 Tesco
 Thai Union Group
 TierraMar
 Tri Marine
 TUNACONS
 University for the Creative Arts – Centre for Sustainable Design
University of California – Davis
 Waitrose & Partners
 Watamu Marine Association
 World Animal Protection
 World Wildlife Fund
 Young's Seafood

EXPERT ADVISORY COUNCIL

The GGGI Expert Advisory Council (EAC), drawing upon the diverse wealth of knowledge and experience contained within the GGGI and its network, exists to provide technical, commercial and governance advice to the GGGI Leadership. Members of the EAC bring a wide variety of perspectives to the table from their respective sectors, including representatives from government agencies, multilateral organizations, fisheries sustainability consultants, fisheries experts, and both private sector organizations and NGOs.



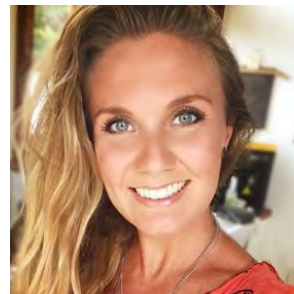
Ben Kneppers
Bureo



Guy Dean
Organic Ocean Seafood, Inc.



Dave Parker
Marine Stewardship Council



Hannah Pragnell-Raasch
Project AWARE



Erin Pelletier
Gulf of Marine Lobster Foundation



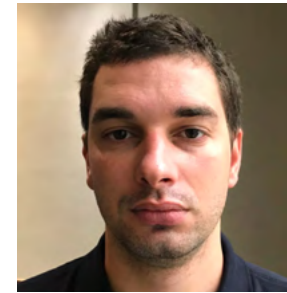
Joan Drinkwin
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John Lansley
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Kalin Varbanov Todorov
Plastix Global



Martin Charter
The Centre for Sustainable Design



Kirsten Gilardi
Karen C. Drayer Wildlife Health Center



Paul Strike
Fourth Element



Lynn Kavanagh
World Animal Protection Canada



Stuart McLanaghan
Seafish Industry Authority



Marcelo Hidalgo
Aquaculture Stewardship Council

WORKING GROUP UPDATES

BUILD EVIDENCE WORKING GROUP

In 2019, the Build Evidence Working Group undertook several efforts to increase access to ghost gear data and compile and analyze new evidence from around the world.

Ghost Gear Reporter App

The Working Group rolled out updates to the GGGI [Ghost Gear Reporter app](#) – a dedicated mobile tool allowing reporting of ghost gear incidents directly to the GGGI data portal – to allow for increased functionality. Notably, these updates included two additional languages (Chinese [traditional] and Portuguese) allowing the GGGI to support projects in new countries and expand data collection activities. Through the GGGI Ghost Gear Reporter app and the GGGI data portal, new data records were collected and new partnerships were established, laying the groundwork for continued growth of our global data set, which represents the largest collection of ghost gear data in the world.

Collaborating in New Regions

The team saw the first collaboration between the newly built data collection tools and gear survey and recovery projects, including a project with WWF Hong Kong. Launched in June 2019, WWF Hong Kong’s “ECF Sea Without Litter II - Ghost Gear Detective” project began using citizen science to collect ghost gear sightings into a baseline survey developed with input from the GGGI. The project trained volunteer divers on collecting scientific data on ghost gear in the region and feeding this data into the GGGI global data portal via use of the GGGI Ghost Gear Reporter app. This project also included seminars, dive training and program-sharing, with WWF-Hong Kong providing participants with a survey toolkit. Volunteers discussed the ecological impact of ghost nets and enjoyed a safe survey dive while sharing their data with the GGGI’s global data set. As the first project to have its own dedicated section on the GGGI data portal, it also helped to clarify the need for development of further project-specific tools to improve the value of data collection, collation and reporting, some of which will be rolled out in 2020.

Publications

Beyond capturing new data and evidence, working group members authored a study on the impact of gear ingestion on wildlife. The Working Group also [published a paper](#) based on the synthesis of the derelict fishing gear evidence track of the 2018 6th International Marine Debris Conference and a Working Group meeting held in the margins of that event. The paper highlights case studies featuring innovative approaches to ALDFG data collection and retrieval, examples of opportunities to fill data gaps and improve our understanding of wildlife ingestion of and entanglement in ALDFG, and awareness-raising through the development of the GGGI data portal.

DEFINE BEST PRACTICE AND INFORM POLICIES WORKING GROUP

In 2019, the Define Best Practice and Inform Policy Working Group successfully increased intake in the recommendations from the GGGI BPF by new stakeholders and new regions around the globe.

Increased Uptake of BPF at Multiple Scales

One of the major objectives of the Best Practice Working Group is to increase uptake of the recommendations found in the BPF by different stakeholders. Through the work of its members, language referencing ghost gear has been incorporated into several regional fisheries management organization (RFMO) proposals, which play a critical role in facilitating intergovernmental cooperation of fisheries management of highly migratory species.

GGGI member Waitrose & Partners announced that they now require their suppliers to follow guidance on gear loss prevention as outlined in the GGGI BPF, helping to address ghost gear prevention and mitigation at scale in their supply chain. Other GGGI corporate partners have implemented similar requirements and the GGGI began development on a comprehensive set of training tools for implementation of the GGGI BPF by corporate and industry members set for release in 2020. Additionally, the recreational fishing company Mustad has begun developing a new sustainability strategy which incorporates the GGGI BPF into its guiding principles. The Best Practice Working Group also began to formulate suggestions for revisions to the BPF to be undertaken in 2020.

Marine Stewardship Council Considering Criteria Related to Ghost Gear

Following GGGI’s submission of a technical paper to the Marine Stewardship Council (MSC) in 2018, the GGGI continued engaging MSC, encouraging adoption of stronger ghost gear related language in the MSC standard. MSC is currently considering adding clearer provisions to their certification

criteria related to ghost gear and ghost fishing in their upcoming standard revision, due to be completed in 2022.

Aquaculture Stewardship Council Authors White Paper

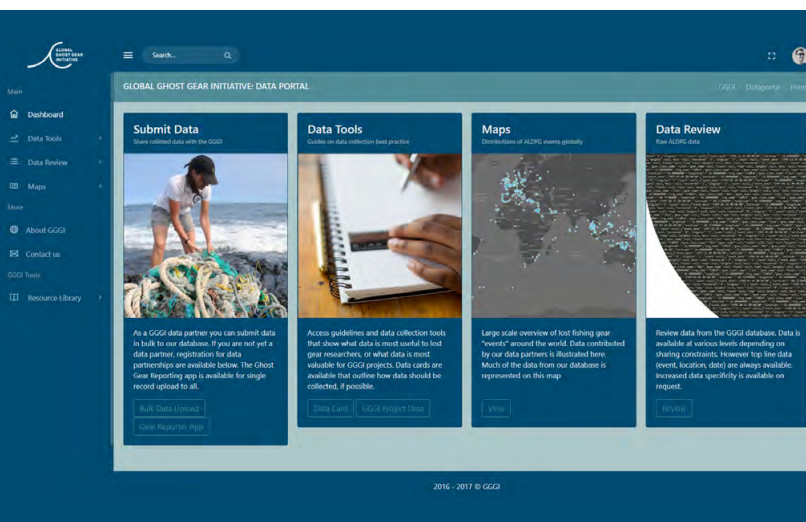
The Aquaculture Stewardship Council (ASC) made progress toward incorporating best practices with respect to lost fishing gear and plastics management in its standard revisions and [published a white paper](#) on this topic. The paper includes recommended measures to reduce marine debris and gear loss in aquaculture operations and for developing the ASC standard to encourage responsible use of plastics throughout the sector. The GGGI was represented on the Technical Working Group to develop the revised standards alongside representatives from the fishing industry, NGOs and academia.

Canada Launches Ghost Gear Fund

The Department of Fisheries, Oceans and the Canadian Coast Guard (DFO) announced its Sustainable Fisheries Solutions and Retrieval Support Contribution Program which provides funding opportunities related to ghost gear prevention and removal. The program consists of CAD \$8.3 million over 2 years (2020-2022) to support projects that fall under four themes: ghost gear retrieval, responsible disposal, acquisition and piloting of currently available innovative gear technology, and international leadership. The call for proposals opened internationally, and will announce its selected recipients in 2020.

CATALYZE AND REPLICATE SOLUTIONS WORKING GROUP

In 2019, the Catalyze and Replicate Solutions Working Group grew to include dozens of active members representing every continent except Antarctica. A larger and more diverse Working Group membership allowed the GGGI to support a greater variety of projects, expand its message, and represent the GGGI’s work at a variety of global



conferences, events and workshops, including the Seafood Expo North America (Boston), MARELITT Baltic Conference (Stockholm), APEC Marine Debris Event (Puerto Varas) and many others.

The Catalyze and Replicate Solutions Working Group continued to incubate and support projects across the globe addressing ghost gear through the established GGGI project blueprint in several different settings and contexts. Some working group members were also part of the review panel for the Joanna Toole Ghost Gear Solutions Award and offered peer-to-peer mentorship to new grassroots organizations that applied for the award on how to develop their project to achieve funding in the future.

Project updates

1. Myeik Archipelago, Myanmar

Project Background

Lost, abandoned and discarded commercial and artisanal fishing gear is emerging as a critical threat to Myanmar's coastal ocean, where it impacts both ecologically and economically important living marine resources, including threatened and endangered species like dugongs, turtles, manta rays, and corals; and poses a threat to Myanmar's budding ocean-based tourism industry.

To address the challenge of ghost fishing gear in Myanmar, the GGGI and the Myanmar Ocean Project initiated a ghost gear removal pilot effort - the first

of its kind in Myanmar. The project, funded by World Animal Protection and the National Geographic Society, focused specifically on the Myeik Archipelago, one of the most untouched island groups in the world. Throughout the islands of the archipelago, ghost nets from artisanal fisheries have been found beneath the surface, threatening key species such as manta rays, and harming the marine ecosystem.

Ms. Thanda Ko Gyi, a Burmese national, highly skilled SCUBA diver, and founder of the Myanmar Ocean Project, was the first person in Myanmar to both raise the alarm about lost fishing gear and take the initiative to remove it, serving as Field Manager for the project. Phase one of the scoping and removal work was completed in March 2019 with phase two of the field work occurring in late 2019 with trips focused on three key sites: Langann Island, High Rock and Lampi Island.

Project Objectives

- Conduct systematic underwater surveys for lost gear in order to conduct a preliminary quantitative assessment of the scope of the problem;
- Draft a policies and procedures manual, utilizing previously developed manuals and best practices recommendations from the GGGI;
- Identify and train highly skilled and experienced SCUBA divers to engage in safe and effective gear recovery, utilizing established methods;
- Use the Ghost Gear Reporter app developed by the GGGI Build Evidence Working Group to collect and collate data on reported, observed and/or recovered gear;
- Conduct outreach to local fishing communities, SCUBA diving groups, tourism operators and media outlets to raise awareness about the project; and
- Recover ghost gear from the Myeik Archipelago.



Photo credit: Matt Gilbert

2. Gulf of Maine, United States

Project background

Each year, thousands of lobster traps are lost in the Gulf of Maine due to poor weather, broken groundlines, and buoys buffeted by storms, or cut loose by boat propellers. These lost traps have significant ecological and economic impacts, resulting in diminished lobster populations and hundreds of thousands of dollars in lost revenue and replacement costs across the industry. To address this issue, the Gulf of Maine Lobster Foundation (GOMLF) has been working with local fishers for years to help solve this problem by doing annual gear removals in the off-season.

In June 2019, with funding from 11th Hour Racing and support from Ocean Conservancy and the GGGI, local lobster fishers and GOMLF removed an enormous ball of ghost gear that had accumulated in the Gulf of Maine. The ball of gear, which had accumulated over months or years of snagging other lost gear and debris on the sea floor, weighed nearly 20,000 pounds and represents the single largest accumulation of gear both GOMLF and the GGGI have been able to successfully remove to date.



Photo credit: Shin Arunrugstichai

Due to the nature of these gear balls, which typically contain multiple gear types and materials which are very difficult to separate, recycling the materials is a challenge. Where possible, the materials were recycled with the balance being sent to a waste to energy facility to power local homes. This project builds on the success of last year's removal effort led by GOMLF, World Animal Protection and the GGGI.

Project Objectives

- Partner with local fishers to gather and analyze first-hand ghost gear related data in the Gulf of Maine;
- Identify the hotspots where fishing gear accumulates;
- Remove ghost gear in partnership with the fishing industry, characterizing the type and amount of gear, while recycling as much as possible;
- Facilitate discussions and recommendations with the fishing industry and other stakeholders on the best solutions to prevent gear loss and to aid in its removal;
- Raise awareness of the negative impact of ghost gear and potential solutions among the fishing industry, stakeholders, and the general public.

3. Central Java, Indonesia

Project Background

During the United Nations Committee on Fisheries (COFI) 32, the Committee instructed the UN FAO to conduct a number of pilot projects to explore the feasibility of fishing gear marking and ghost gear retrieval, particularly in developing countries. To test the applicability of the UN VGMFG, GGGI has been working with partners in Indonesia since 2017 to implement locally-appropriate gear marking and recycling schemes for the country's gillnet fishery.

In 2019, the project moved from its second to third phase. With our partners, we completed a pilot study in Indonesia to assess the practical and economic feasibility of various gillnet marking options for small-scale artisanal fisheries.

Additionally, the study looked at drivers needed to address ghost gear in the Indonesian context—such as retrieval and recycling. The project focused particularly on gillnets and pots/traps, which are commonly used in the region and represent two of the most harmful forms of ghost gear as identified by the GGGI BPF due to their high loss potential and high probability of ghost fishing once lost. This study found decreased government subsidies of gillnets to small scale fishers, locally managed recycling options, targeted removal of gear in sensitive habitats, and the implementation of port reception facilities were needed to prevent ghost gear and combat illegal, unregulated, and unreported (IUU) fishing.

Following the success of the phase two study, a large stakeholder workshop co-hosted by the GGGI and FAO was held in Bali in June 2019 to begin the third phase of work. Testing of gear marking technologies continues in the region with the Indonesian Ministry of Maritime Affairs and Fisheries, the Fishing Technology Development Centre in Semarang, the Indonesian Directorate of Fishing Vessels and Gears, the Centre of Fisheries Research, local fishers, and other important partners. GGGI plans to continue to expand upon this work into 2020.

Project Objectives

- Assess applicability of the UN VGMFG and GGGI BPF in small scale fisheries in Indonesia;
- Work with local stakeholders to identify key drivers for gear loss in the region and remove gear from sensitive habitat;
- Assess availability of end-of-life gear disposal options and develop a plan to implement port-side collection facilities in two pilot sites;
- Test innovative gear marking technology using locally available biodegradable materials;
- Facilitate discussions and recommendations with the fishing industry and other stakeholders on the best solutions to prevent gear loss and to aid in its removal.



Photo credit: World Animal Protection

4. Fujian, China

Project Background

In Fujian, China, the GGGI is supporting a Fishery Improvement Project (FIP) led by Ocean Outcomes and local Chinese partners to understand the extent and cause of crab trap loss in a large-scale red swimming crab fishery. Approximately 1,000 trawl and pot vessels are part of the FIP. Preliminary estimates from fisher surveys indicate that annual gear loss from the ~200 participating pot vessels is very high (as many as 5,000 – 10,000 traps lost per vessel per year). These numbers are averages based on available survey information and thus need further verification, but there is no doubt that gear loss in the region is having substantial negative impacts. This includes economic impact for fishers in terms of equipment replacement costs, as well as significant impacts on the local populations of crab and other species as lost traps continue to ghost fish, particularly as there are currently no regulations in the fishery requiring escape rings

or biodegradable escape panels on the traps. The main causes of gear loss are gear conflict as bottom trawlers drag nets through pot fishing areas, and trap fishers often fishing in inclement weather, mostly to avoid interactions with trawl vessels.

In addition to understanding the extent of gear loss, this project demonstrated the practical application of ghost gear assessment criteria developed from the GGGI BPF as an integral part of fishery pre- and/or full assessments to support FIP design or fishery certification processes. A secondary follow-up goal, aimed for achievement by the end of 2022 through additional funding sources, is to implement fleet-wide measures for the Fujian red swimming crab fishery to minimize loss of crab gear and mitigate impacts of ghost gear through a management plan that guides and evaluates gear performance. World Animal Protection and Sea Pact supported the following ghost gear objectives for the FIP in 2019.



Photo credit: Ocean Outcomes

Project Objectives

- Complete a fisher survey to estimate the extent, leading cause(s) and location of gear loss in the fishery, which are known to be significant;
- Conduct an assessment of gear loss drivers using regionally appropriate assessment criteria to identify performance gaps;
- Facilitate cross-sector fishery dialogue to reduce and mitigate gear conflict drivers for gear loss between trawl and pot fisheries;
- Conduct educational outreach for fishers and fisheries managers on performance gaps and best practices as outlined in the GGGI BPF;
- Identify the top three gear loss avoidance, mitigation or recovery actions to trial in 2020.

5. Caribbean – Jamaica and Grenada

Project Background

The GGGI began a project in the Caribbean (Jamaica and Grenada) with funding from the US Department of State in collaboration with the UK Centre for Environment, Fisheries and Aquaculture Science (Cefas) and the local fisheries authorities. The Caribbean region, being prone to frequent severe storm events such as hurricanes, experiences a significant amount of gear loss, particularly in its static gear fisheries using traps and pots. This comprehensive project is focused on two key project objectives in the Caribbean region: 1) reducing ghost gear by incentivizing adoption of best practices around gear loss prevention, exploring innovative gear designs and improving port reception facilities; and 2) identifying the types and prevalence of ghost gear in the region and conducting workshops to train local stakeholders in gear marking and retrieval.

Project methodology includes assessing the scope of the ghost gear problem through implementation of fisher surveys, testing new

gear tracking technologies, assessing regional end-of-life options for fishing gear, performing lost gear hotspot mapping followed by ground-truthing of gear accumulation areas and targeted retrieval, and including gear management best practices as outlined in the BPF in a parametric disaster insurance product developed by the World Bank.

In 2019, we completed the incorporation of the relevant sections of the BPF into the COAST parametric insurance checklist and conducted fisher surveys in both Jamaica and Grenada in concert with the local fisheries authorities. The remaining objectives are due to be carried out in 2020.

Project Objectives

- Implement relevant BPF recommendations as part of an integrated checklist for the COAST risk parametric insurance product for the Caribbean region;
- Assess opportunities for improving port reception facilities for lost and/or end-of-life gear and scope for local recycling options;
- Perform a trial of innovative fishing gear and gear marking technologies to prevent ghost gear and facilitate gear recovery;
- Gather information from the most prevalent types of ghost gear in Jamaica and Grenada, and use this information to develop a standardized gear retrieval protocol for the region;
- Based on data collected through fisher surveys, perform a hotspot analysis to predict the most likely areas for lost gear accumulation and perform ground-truthing to identify areas for future gear removal operations;
- Conduct workshops with key local stakeholders to share best practices for gear marking and gear retrieval protocols, and encourage the use of the GGGI Ghost Gear Reporter app.

“ The Global Ghost Gear Initiative has become the leader in combining international efforts to address the devastation to our oceans caused by ghost fishing. The GGGI has helped Blue Ocean Gear join forces with others working toward similar goals, allowing us to broaden our impact. ”

KORTNEY OPSHAUG
CEO, BLUE OCEAN GEAR



FAO/GGGI WORKSHOPS

In response to the UN COFI 33's request that FAO continue addressing ghost gear, FAO and the GGGI furthered their partnership by convening a series of four regional workshops in 2019 on best practices to prevent and reduce ghost gear. The four regions identified by FAO as those with the greatest need were: Southern-Western Pacific, Southeast Asia, West Africa and Latin America/Caribbean.

The four workshops primarily focused on building capacity and raising awareness of how to prevent ghost gear drawing on both the GGGI BPF and the FAO VGMFG. The workshops also helped identify baseline information on the main causes of gear loss in each region; the prominent types of fishing gear that get lost in each; and ghost gear hotspot areas to help formulate effective, locally relevant mitigation strategies.

Objectives of these workshops were to:

- Connect and build relationships with stakeholders working to address ghost gear in each region;
- Enhance dialogue and bilateral/regional cooperation and coordination between participating countries and stakeholders to address ghost gear;
- Highlight case studies of best practice being carried out by countries/stakeholders in the region; and
- Share regional perspectives and insights about challenges and solutions to preventing negative impacts from ghost gear;

- Raise awareness and understanding of the VGMFG and associated best practice measures as outlined in the GGGI BPF;
- Identify key challenges and capacity development needs at the regional level associated with addressing ghost gear and implementing tools such as the VGMFG and the GGGI BPF;
- Identify regionally appropriate strategies to further develop, refine and promote their implementation;
- Ensure workshop outcomes to support progress toward UN SDG 14;
- Enhance the understanding of governments and key stakeholders in the region concerning the necessary regional actions to reduce ghost gear;
- Inform subsequent steps to be taken by FAO to support countries in the region to implement instruments, measures and tools to prevent and reduce ghost gear.

The workshops convened regionally important cross-sectoral stakeholders including a mix of government representatives, regional fisheries bodies, fish harvesters, intergovernmental and nongovernmental organizations and showcased regionally relevant case studies of ghost gear reduction, mitigation, and cure. There were dedicated sessions on sources, impacts, and solutions to ghost gear, inviting constructive dialogue amongst the different stakeholders and sectors. The specific outcome of each workshop was a tailored regionally specific Action Plan to address ghost gear, and a set of recommendations highlighting next steps to implement the plan effectively.

Across all workshops, small group interaction was consistently noted as a key success and allowed for active participation from all stakeholders regardless of background or professional position. The simultaneous translation and translated workshop materials offered at the Dakar and Panama City workshops in particular further facilitated this. In addition, there were numerous comments about

the appreciation for the case studies and lessons learned from project activities and the experience of organizers at regional and international scales.

On the final day of each workshop, participants created an ordered list of recommendations to FAO and the GGGI. These recommendations are being used as the basis of FAO's global ghost gear strategy which will be implemented in January 2020 in collaboration with the GGGI. The GGGI is excited to provide support for this work and will continue to work closely with FAO as they implement the program.

Vanuatu Workshop, Port Vila

- May 2019 – Warwick Le Lagon
- 27 participants from 14 countries
- Facilitated by Natural Resources Consultants

A field trip was also organized to visit the beautiful Port Vila Harbor by boat and the fish markets in Port Vila proper, allowing participants the opportunity to witness firsthand fishing operations in the Pacific.



Vanuatu Workshop, Port Vila
Photo credit: World Animal Protection



Vanuatu Workshop, Port Vila
Photo credit: World Animal Protection



Indonesia Workshop, Bali
Photo credit: Indonesia Coordinating Ministry of Marine Affairs

Indonesia Workshop, Bali

- July 2019 – Pullman Hotel Legian
- ~70 participants from 16 countries
- Facilitated by Ocean Outcomes

Field trip participants visited the Port of Benoa to discuss the importance of port involvement in ghost gear recovery with respect to vessel regulations and port disposal facilities. The group also viewed fishing vessels docked in the area, viewed gear storage on board, and were able to view the offload of tuna and other species from a longline vessel.

Senegal Best Practice Framework Workshop, Dakar

- October 2019 – Hotel Le Ndiambour
- ~30 participants from 12 countries
- Facilitated by Ocean Outcomes

Participants visited the artisanal fishery landing site at Yoff in Northern Dakar – one of the largest artisanal beach ports in Senegal. Participants received a behind-the-scenes tour of the landing beach, processing facility, quality control center, and administrative offices.



Senegal Best Practice Framework Workshop, Dakar
Photo credit: Mohamed Sadiki

Panama Workshop, Panama City

- November 2019 – Wyndham Hotel Albrook Mall
- ~80 participants from 30 countries
- Facilitated by Natural Resources Consultants

Field trip participants visited Vacamonte Port, one of several ports in Panama owing to the high volume of shipping passing through the Panama Canal. Attendees viewed vessel storage, port reception facilities, and the offload of tuna and other fish species.



Panama Workshop, Panama City
Event photos credit: Joel Baziuk



Photo credit: Joel Boziuk

GHOST GEAR REMOVAL DIVER TRAINING WORKSHOP, PANAMA CITY

The final workshop in the series was done in conjunction with a ghost gear removal and diver training workshop. The workshop was convened by the GGGI and FAO with additional support provided by the Professional Association of Diving Instructors (PADI). The workshop was facilitated by Natural Resources Consultants while Edgardo Ochoa of Conservation International provided dive instruction.

Objectives of the workshop were to:

- Provide guidance on developing a ghost gear recovery program in the Caribbean and Latin America;
- Demonstrate an in-water experience of lost net recovery;
- Provide PADI Ghost Gear Removal Certification to select participants.

The workshop spanned three days. The first day featured presentations from global and regional

experts and interactive working group sessions for both divers and non-divers. Presentations included lessons learned on developing a gear-retrieval program, data collection methodology, considerations for sensitive habitat and species during gear removals, and a decision-tree exercise aimed at helping participants understand reasons for or against gear recovery.

The second day enabled 12 divers to receive hands-on experience with underwater net recovery. Together, they removed 16.6 kg of entangled net and rope at three sites near Tobago Island. Vessels for divers were provided by Autoridad de los Recursos Acuáticos de Panamá (ARAP), while non-diving participants observed the removal from a safe distance on a vessel provided by the Panamanian navy.

The third day consisted of a debrief of the previous day's underwater removal activities, and certification of select divers in the PADI Ghost Gear Removal certification by Edgardo Ochoa.

OUTREACH AND EVENTS

The GGGI continued its extensive program of outreach and engagement with stakeholders across a variety of sectors, with the aim of raising awareness, influencing policy and practice, and increasing the GGGI membership in a targeted way. Events the GGGI participated in include the IATTC workshop in Lisbon, Portugal; the SeaWeb Summit in Bangkok, Thailand; the South Pacific Commonwealth Marine Litter Program (CLiP) Conference in Port Vila, Vanuatu; the North Atlantic Seafood Forum in Bergen, Norway; and the FAD Working Group Workshop in San Diego, USA, among others.

Some of the highlights from the year's programme of events are listed here.

SEAFOOD EXPO NORTH AMERICA

From March 15 – 17, GGGI representatives attended the Seafood Expo North America (SENA) in Boston to network and meet with seafood companies about ghost gear and the solutions GGGI is spearheading.

GGGI and Thai Union co-hosted a side event panel on ocean plastic which showcased the leadership of the seafood industry including some specific case studies to tackle this issue. The panel was moderated by Allison Schutes, Director of the International

Coastal Cleanup at Ocean Conservancy, who set the stage by presenting some compelling stats on the impact of ghost gear.

Dr. Darian McBain from Thai Union spoke about the deluge of ocean plastic, its impact on the ocean, and the seafood industry's responsibility to prevent it, as their inspiration for joining the GGGI.

David Valleau from Tri Marine presented on the company's initiatives to reduce and prevent FAD loss through the development of a more rigorous FAD policy.

Nola Martin from Ocean Brands highlighted the importance of consumer awareness and engagement in elevating the cause.

And Jay Lugar from MSC discussed how ghost gear currently exists in their standards and the analysis being undertaken to revise those standards to make them more effective.

CARIBBEAN REGIONAL FISHERIES MECHANISM MEETING

On March 21, 2019 at the 17th Annual Caribbean Regional Fisheries Mechanism (CRFM) Meeting, Montserrat officially signed on to the GGGI,



Photo credit: Aly Ward



Photo credit: Joel Baziuk

making it the fourteenth government to do so and the first of the CARICOM countries to pledge official support for the GGGI. Mr. Alwyn Ponteen, Chief Fisheries officer of Montserrat and exiting Chair of CRFM, sat down with Joel Baziuk, Global Ghost Gear Initiative Deputy Director, at an official ceremony to sign the GGGI Statement of Support at the Bird Rock Beach Hotel in Basseterre.

ASEAN WORKSHOP

Since 2017, the Association of Southeast Asian Nations (ASEAN) Region has worked toward ratifying a Framework of Action on Marine Debris, with individual ASEAN countries also looking to develop and expand their own national marine litter action plans.

In support of these efforts, the US Department of State together with the Government of Vietnam hosted the first ever ASEAN Regional Forum (ARF) Workshop on Marine Debris for Sustainable Fisheries and Food Security in Southeast Asia in Nha Trang, Vietnam, with a specific focus on ghost gear. Held from May 13 – 15, the workshop offered a unique opportunity to highlight the impact and pervasiveness of sea-based sources of marine litter in the ASEAN region and the tools and guidance in the GGGI BPF to be included in various policy approaches.

In the session, GGGI Director Ingrid Giskes presented on sea-based sources of marine litter in capture

fisheries and aquaculture, stoking interest for the GGGI/FAO workshop held in Bali in July for a more in-depth discussion on ALDFG.

OUR OCEAN 2019

Norway Joins the GGGI

On October 24, 2019, at the Our Ocean 2019 conference in Oslo, Norway, the Norwegian government joined the GGGI, and reinforced its commitment to tackling the issue of ghost gear. Norway is now one of 15 governments who have recognized the importance of addressing ghost gear at scale and protecting our ocean for future generations.

The GGGI also hosted an official side-event at Our Ocean, which saw Mr Ola Elvestuen, Minister of Climate and Environment in Norway, sign the GGGI Statement of Support ahead of presentations by a number of leaders in their respective fields.

GGGI Director Ingrid Giskes opened the event with a welcome to all guest presenters, highlighting the significance of Norway joining the GGGI.

Following Ingrid's opening remarks, Minister Elvestuen, reaffirmed his country's commitment to tackling marine debris and ghost gear, highlighting the work they have done over the past three decades.

Minister Elvestuen told the audience that Norway has been retrieving lost fishing gear along its coastline since 1983 and emphasised the importance of shared knowledge and experiences in addressing marine litter and microplastics.

Mr. Manuel Barrange, Director of the Fisheries and Aquaculture Policy and Resources Division at FAO, gave an FAO perspective on ghost gear and various initiatives already underway to address the problem.

Helen Agren, Swedish Ambassador for the Ocean, spoke about Sweden's support for the GGGI and its international work on ghost gear, both in the Scandinavian region and further afield.

Martin Exel, Managing Director for SeaBOS, who



had also committed the prominent research and innovation collaborative to the GGGI earlier that day, discussed the fishing industry's perspective and commitments to address ghost gear in their supply chains.

Rounding off the event, a Panamanian case study was presented by Flor Torrijos, General Administrator, ARAP, Panama; and Briony Coulsen, Head of Ocean Climate Change and Plastic Pollution, UK Government, spoke to building a coalition to address ghost gear in the Commonwealth.

Vice-Rector and Professor in Sustainability, Annik Magerholm Fet, Norwegian University of Science and Technology, discussed the Blue Circular Economy Project and the fishing gear value chain, before the event was concluded with a Q&A session with the audience.

SeaBOS Joins the GGGI

Also at the Our Ocean 2019 conference, the Seafood Business for Ocean Stewardship initiative (SeaBOS) joined the GGGI. SeaBOS represents 10 of the world's largest seafood companies, aligned in their collective mission to lead a global transformation toward sustainable seafood production and a healthy ocean. The companies include Maruha Nichiro, Nissui, Thai Union, Mowi ASA, Dongwon, Skretting, Cargill, Cermaq, Kyokuyo, and Charoen Pokphand Foods (CPF).

Managing Director Martin Exel told the conference how pleased SeaBOS is to partner with GGGI to help remove and reduce ghost gear, redesign fishing gear, and promote new practices to achieve positive and sustainable ocean health outcomes.

GGGI Director Ingrid Giskes stated that the SeaBOS announcement sends the strongest message yet that the global seafood industry is recognizing the severe threat that ghost gear poses and is increasingly committed to addressing this challenge in the supply chain.



Photo credit: Joel Baziuk



Photo credit: Thanda Ko Gi

“ The Global Ghost Gear Initiative gives real meaning to the phrase: think global, act local. The connections made through the GGGI have been paramount to facilitating collaborative regional solutions to abandoned, lost, or discarded fishing gear in British Columbia, Canada. Archipelago has had many opportunities to work alongside fishing communities and other stakeholders in the region to address and educate on the concerns of lost gear. ”

GHOST GEAR AWARENESS INITIATIVES ARCHIPELAGO (GGAIA), ARCHIPELAGO MARINE RESEARCH

GGGI MEMBER HIGHLIGHTS

NATURAL RESOURCES CONSULTANTS: US ARMY DIVERS REMOVED DERELICT FISHING NETS FROM PUGET SOUND DEPTHS

During the summer of 2019, soldiers with the US Army 569th Engineer Dive Detachment removed ten ghost gillnets from deep water habitats off the San Juan Islands in Washington State.

These nets were damaging habitats critical to rockfish species listed under the Federal Endangered Species Act. As part of the Department of Defense Innovative Readiness Training (IRT) Program, the Army Deepwater Derelict Net Removal Project targeted legacy ghost nets deeper than 105 feet along the steep rocky habitats of the San Juan Islands.

The project provided the Army divers with training in deep water diving operations while removing ghost fishing nets that were posing a threat to wildlife.

At the start of the project, there were 233 known deep water ghost nets in San Juan County, some of which had been lost years or even decades ago. These nets were identified during removal operations for shallow water ghost nets conducted in the last ten years and through dedicated sidescan sonar surveys, drop camera surveys, and diver surveys. Until now, the high cost of retrieving ghost fishing nets from deep water sites had prevented their removal.

2,246 shallow water (to 105 feet in depth) ghost nets have been removed from San Juan County waters since 2002. The ghost nets were damaging 344 acres of habitat. Entangled in these nets were 553 dead birds, 21 dead mammals, and 1,110 alive and dead fish. Most of the nets were lost years ago, during a time when salmon gillnet fishing was at its peak. Currently, it is estimated that 15-30 gillnets are lost annually. Commercial fishers are required

to report lost nets and the state and tribes support a Reporting, Response, and Retrieval program run by the Northwest Straits Initiative and Natural Resources Consultants (NRC) designed to ensure any newly lost nets do not re-accumulate in marine habitats.

Due to the success of the project, the IRT Program has continued funding for a second Army dive detachment to continue the work during summer 2020.



Photo credit: Greg Sweeney

TENGAH ISLAND CONSERVATION, MALAYSIA

Tengah Island Conservation (TIC) is a biodiversity conservation organization based in the Johor Marine Park. TIC started their work with a turtle conservation program and projects have now grown to include coral reef surveys, beach and underwater cleanups, sustainable tourism, terrestrial surveys and outreach in local schools and communities. To date, TIC has mapped over 1,200,000m² of coral reef across four islands, removing nets and ropes which were killing corals, and assessing the biodiversity to share data with the Marine Park and the Department of Fisheries.

TIC's beach and underwater cleanups have covered several inhabited and uninhabited islands in the marine park, with more planned for 2020. In 2018/2019, they removed over 23,081kg of marine debris of which 10,564kg was ghost gear, including 55 lost or illegal fish traps.

TIC organized a community beach clean in 2019 with over 90 volunteers from local communities,

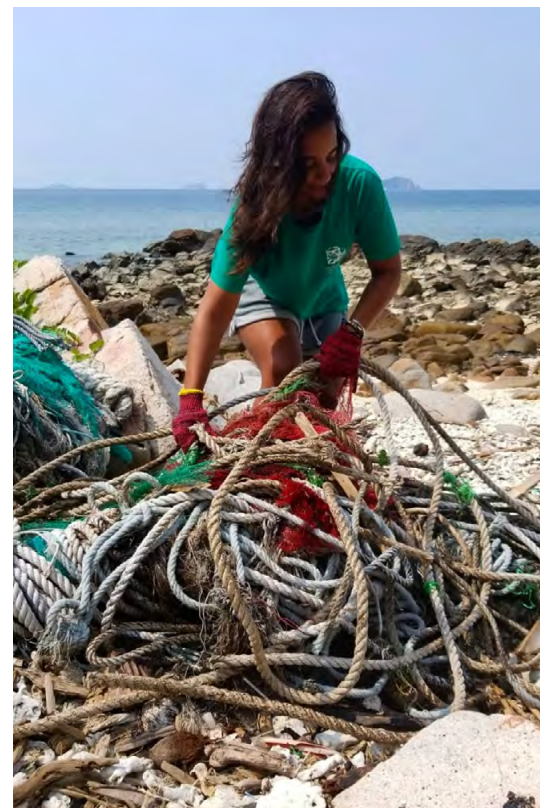
businesses and government agencies participating to remove over 1,854kg of debris in a morning. Around 962kg of the total was ghost gear, comprised mainly of nets and ropes. They also co-organized the 2019 International Coastal Cleanup in Mersing, with over 300 volunteers.

TIC initiated and coordinates PEDAS (Pasukan Pendidik Ekologi dan Alam Sekitar – Ecological and Environmental Education Team), an environmental educational program for local schools. It covers five modules on biodiversity with the aim of creating awareness and love for the marine environment. In 2019, they invited Trash Hero Mersing to join them in presenting a module focused on marine debris and ghost gear which reached over 500 students across five schools in 2019.

In collaboration with Batu Batu (a local resort), TIC received a Silver Award in the Best for Wildlife Nature Conservation category at the World Responsible Tourism Awards 2019 held in London, UK.



Photo credit: Surfrider Foundation, Kauai Chapter



Photos credit: Tengah Island Conservation

SURFRIDER FOUNDATION – BEACHES TO BLOCKS

In 2019, The Kauai Chapter of the Surfrider Foundation removed and weighed approximately five metric tons of marine debris every month from the coastline of Kauai. The Hawaiian Islands are a ghost gear hotspot because they catch marine debris spun off from the North Pacific Gyre.

Currently, 56% of the weight of the marine debris recovered by Surfrider Kauai consists of ghost fishing gear (nets, ropes, lines) and 29% hard plastic associated with ghost fishing gear (buoys, floats, baskets). For that reason, Surfrider Foundation joined the GGGI in 2018 to reduce ghost gear in Kauai.

In addition to removing plastics from the environment, Surfrider partnered with an innovative new company, ByFusion, to test the feasibility of fashioning Kauai's ghost fishing gear along with domestic plastic waste into building blocks. The

plastic is shredded, steam cleaned and compressed into ByBlocks, which are Lego-like blocks the size of the conventional cement building blocks they are designed to replace. Each ByBlock weighs approximately 10 kg and contains the equivalent of 555 plastic drinking water bottles.

In the fall of 2019, Surfrider joined with ByFusion and Island School in the building of a 12'x20' athletic pavilion alongside the school's outdoor basketball court – the first permanent structure in the world to be built of ByBlocks. The building met appropriate building codes, was government approved, and built by licensed contractors pleased to be the first to utilize this remarkable new material. The project showed that ByFusion technology is ideally suited for islands and remote areas that can use abundant plastic marine debris and domestic waste as building material.

6TH ANNUAL MEETING, PANAMA

From November 16-17, 2019, the GGGI held its sixth Annual Meeting in Panama City, Panama. Participants from around the world gathered to examine what has been done in the fight against ghost gear in the past year and explore how the collective can build on its accomplishments in the future.

Following on the successful format from the 2018 Annual Meeting in Bali, the 2019 Annual Meeting had four panel discussions:

Panel 1: What is the opportunity for supranational public policy guidelines to multiply the impacts of GGGI?

Moderator: Ingrid Giskes - GGGI

Panelists:

- Flor Torrijos – Autoridad de los Recursos Acuáticos de Panamá (ARAP), Panama
- Jon Lansley – United Nations ALDFG (UN FAO)
- Marina Petrovic – Department of Fisheries, Oceans, and the Canadian Coast Guard, Canada
- Alwyn Ponteen – Ministry of Agriculture, Trade, Housing, Lands and Environment (MATHLE), Montserrat



Photos credit: Joel Baziuk

Panel 2: Circular economy – how a collective approach can drive scaling up of ALDFG/end-of-life fishing gear use at industrial levels and widen the positive impact of its use.

Moderator: Ben Kneppers – Buero

Panelists:

- Paul Strike – Fourth Element
- Claire Potter – Claire Potter Design
- Kalin Varbanov Todorov – Plastix Global
- Veronika Mikos – Healthy Seas Initiative
- Marina Petrovic – Department of Fisheries, Oceans, and the Canadian Coast Guard, Canada



Photo credit: Joel Baziuk

Panel 3: Using evidence and research to build ambition amongst corporates and policy makers to support and enable GGGI to scale its impacts.

Moderator: Kirsten Gilardi – University of California, Davis

Panelists:

- Kelsey Richardson – Commonwealth Scientific and Industrial Research Organization (CSIRO)
- Martin Stelfox – Olive Ridley Project
- Zac Edwards – International Pole and Line Foundation (IPNLF)
- Hannah Pragnell-Raasch – Project AWARE

Panel 4: What are the constituent parts of a successful solutions project and how can success be replicated?

Moderator: Perry Broderick – Ocean Outcomes

Panelists:

- Karen Fuentes – Manta Caribbean Project
- Erin Pelletier – Gulf of Maine Lobster Foundation
- Bourton Scott – Emerald Sea Protection Society
- Jose Alvarez – WWF Peru
- Pascal van Erp – Ghost Fishing Foundation

During the meeting, participants also had the opportunity to showcase their work from the past year via presentations as well as five-minute long lightning talks on various topics including gear loss prevention and recovery, circular economy, and industry engagement. Some of our newest members, such as the Manta Caribbean Project, were able to showcase the work they do in tackling ghost gear by collaborating closely with their local fishing community.

Additionally, the three GGGI working groups came together to present on what they had accomplished in the past year and to begin developing plans for 2020. The theme of this year's meeting was "scaling up," and members took the theme in stride, developing work plans targeted at maximizing the GGGI's impact in an achievable way.

The evening of the 16th saw a dinner and drinks reception hosted by Ocean Conservancy and exclusive screening of the CBC Documentary "Ghost Nets" featuring the Emerald Sea Protection Society (ESPS) and their work to remove ghost nets from the coast of British Columbia, Canada. Attendees were also treated to an advance screening of Healthy Seas' documentary "Mission in Santorini" showcasing their ghost gear removal project with Ghost Fishing Foundation in Santorini, Greece, featuring Pierre-Yves Cousteau. We also had a table dedicated to our dear colleague Joanna Toole, where attendees could write

down pledges to "be more Jo" and hang them on a beautiful gillnet donated by ESPS for the occasion. The pledges were collected at the end of the meeting and sent sealed in a small fishing buoy to Joanna's father Adrian as a reminder of how we all continue to be inspired by Joanna each and every day.

Notably, this was the first GGGI meeting since Ocean Conservancy became the host organization of the initiative in early 2019. The GGGI is housed under Ocean Conservancy's growing Trash Free Seas[®] program, which also mobilizes the annual International Coastal Cleanup and convenes the Trash Free Seas[®] Alliance, a forum for conservation, science and industry leaders to identify solutions to the ocean plastic crisis. The program also catalyzes scientific research on ocean plastics and regularly engages in international policy dialogues, making it the perfect fit to house the GGGI.



Photos credit: Joel Baziuk

“ We recognize plastic pollution, and in particular, Abandoned, Lost or Discarded Fishing Gear (ALDFG) as being a major threat to marine ecosystems and therefore have a responsibility to tackle this throughout our supply chain. In order to effectively drive change, Young's has partnered with the Global Ghost Gear Initiative (GGGI) since 2015 and have worked to implement its Best Practice Framework (BPF) into our sourcing policies. ”

CAMERON MOFFATT
SUSTAINABILITY MANAGER, YOUNG'S SEAFOOD

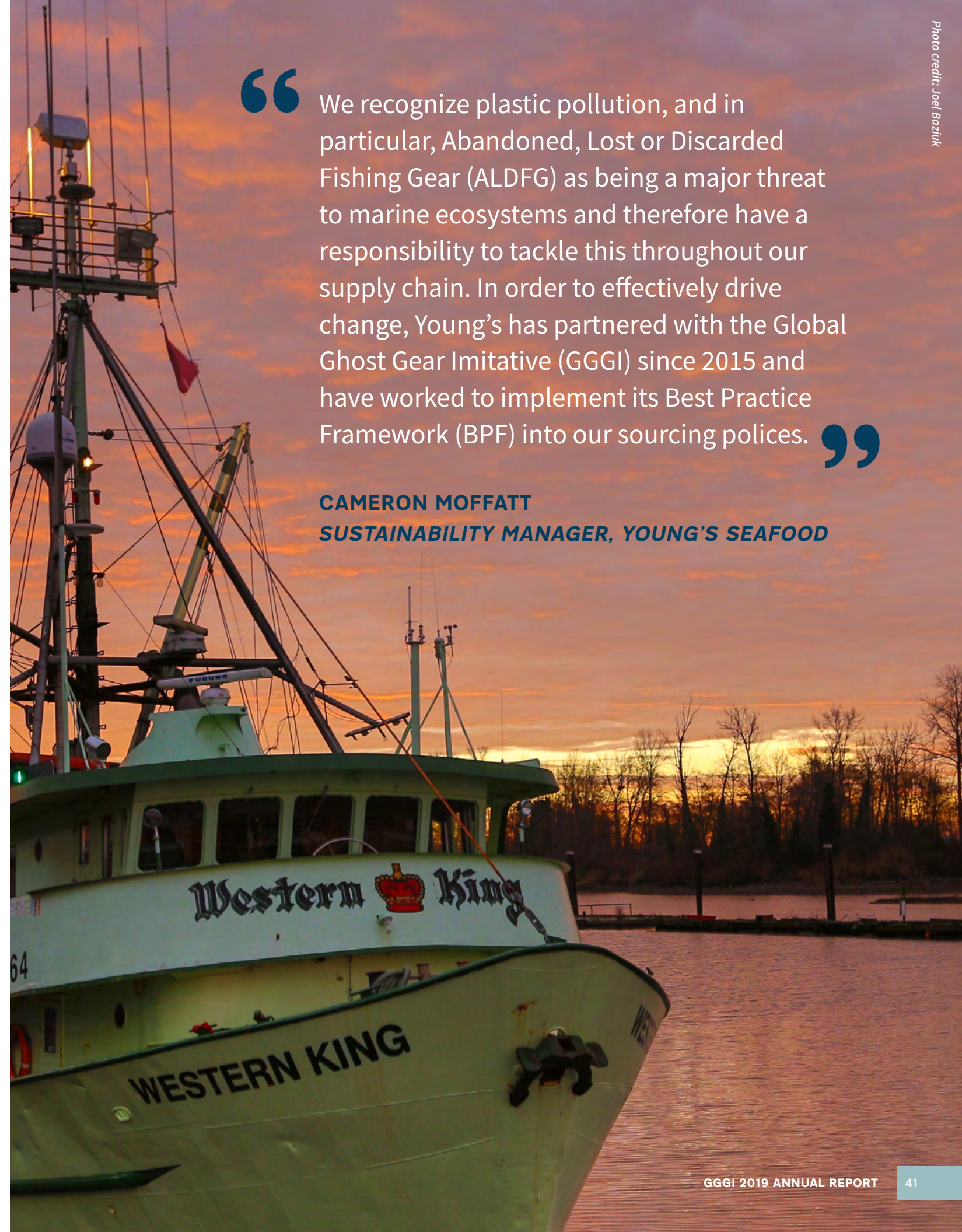
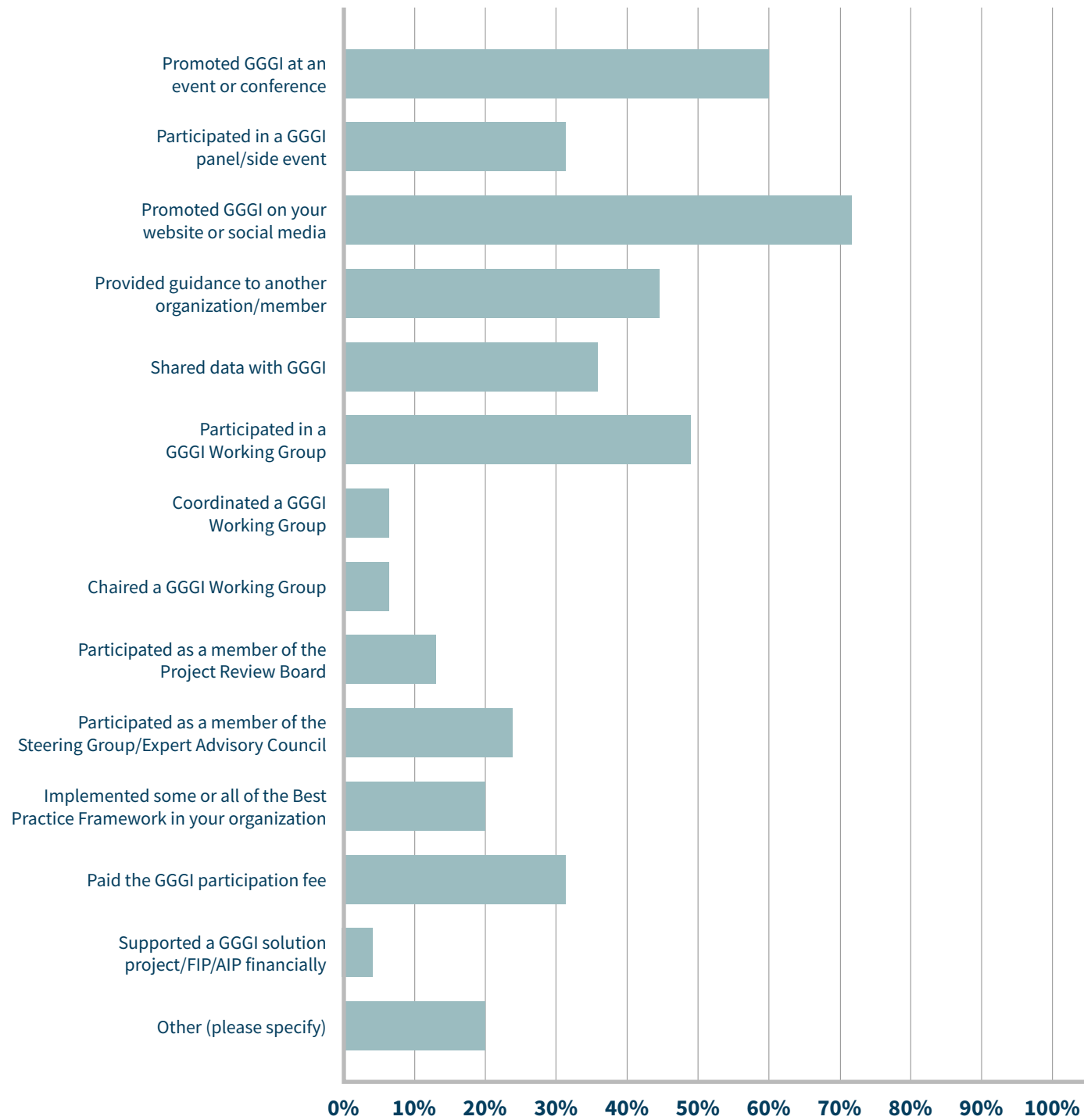


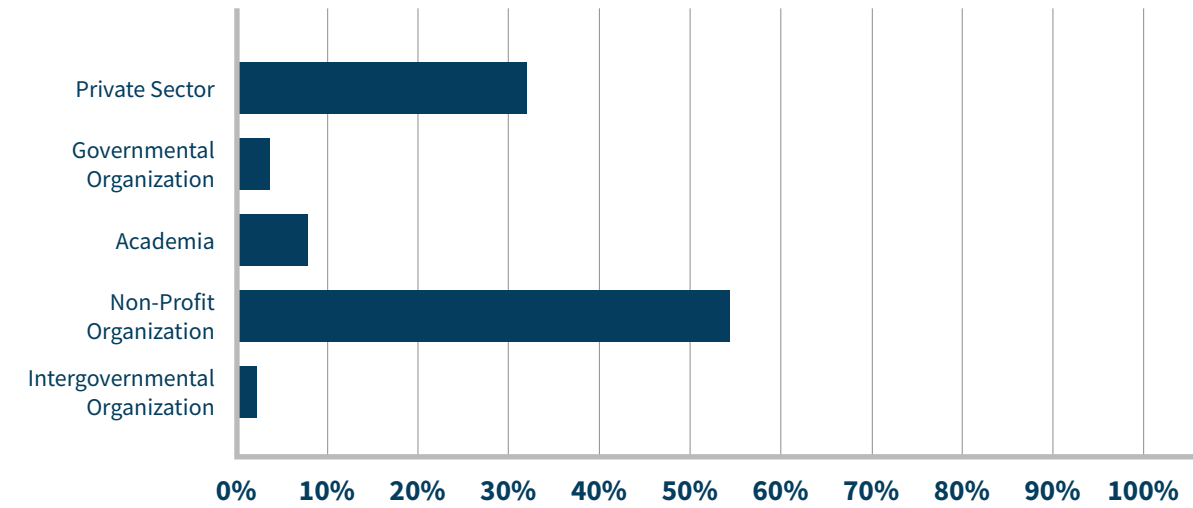
Photo credit: Joel Baziuk

YEAR END SURVEY SUMMARY

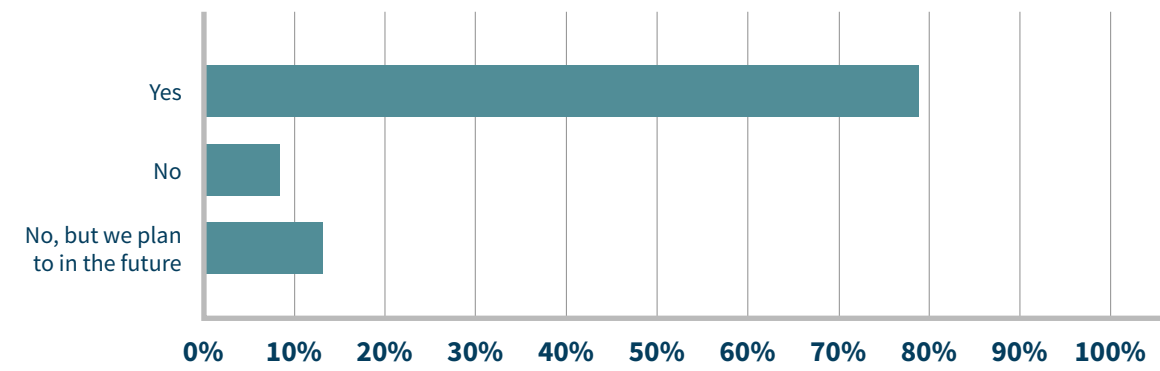
How has your organization contributed to the GGGI in 2019?



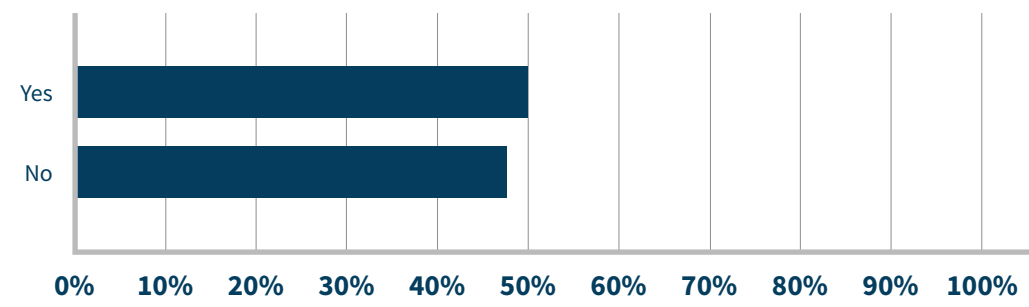
Which sector best describes your organization?



Is your organization currently participating in a ghost gear related project?

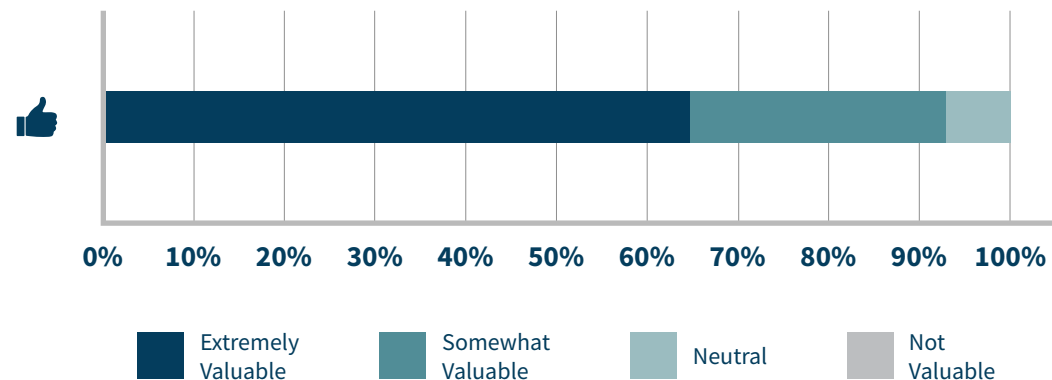


Did your organization attend any ghost gear related conferences in 2019?



improved customer relationships passion
 opportunities **credibility** common goal
 international connections
 influencing change **collaboration**
 professional brighter future data
 sharing information **solutions**
 building relationships credentials
 shared knowledge networking

How valuable is GGGI membership to your organization?



“ As an ethical retailer, the Co-op is committed to responsible sourcing and ensuring our fish comes from healthy stocks in healthy oceans which is why we’re delighted to support the Global Ghost Gear Initiative. Ghost gear poses a significant threat to marine life all over the world and it’s imperative that the industry takes collaborative action to help find workable solutions that can be implemented across international supply chains. ”

AISLA JONES
FISH SUSTAINABILITY MANAGER, CO-OP UK



Photo credit: World Animal Protection

REFLECTIONS AND LOOKING AHEAD

REFLECTING ON THE RIPPLE EFFECT

If there's one word to summarize 2019 for the GGGI, it's "momentum."

There has been a swelling tide of fresh global interest, engagement and action on ghost gear from right across the spectrum of stakeholders. There have been ongoing attempts to better quantify the amount of gear lost in the ocean every year, and there are now more countries taking direct action on the issue.

Ghost gear is now being referenced at nearly every major seafood and ocean sustainability conference, event and summit. There is increased engagement from major players within the fishing industry, along with the recognition that ghost gear goes beyond wild capture fisheries and that the aquaculture sector also needs to be engaged. The technology sector is showing increased interest with the emergence of numerous gear innovation technologies, and there is increasing engagement from the academic community.

With its solid foundations and proactive approach, the GGGI continues to bring diverse stakeholders from around the world together to provide real-world solutions to the ghost gear issue.



Photo credit: World Animal Protection

MEMBERSHIP ENGAGEMENT

As the GGGI moves forward, we'll continue to consolidate and deepen the relationships with our partners. We will be hosting a Government Roundtable with our 15 governments to discuss national and regional action plans, and a Corporate Roundtable to discuss the aquaculture BPF and new BPF guidance tools. We hope to make these annual events moving forward, pending the situation with COVID-19.

PROJECTS

Since the start of the initiative, the GGGI has conducted 17 projects in 15 countries worldwide, testing strategies and technologies to inform best practices for addressing ghost gear. The data gathered from these projects feed directly into the GGGI Data Portal — an online tool housing the world's largest collection of ghost gear data from data contributors all over the world through bulk uploads and the Ghost Gear Reporter app. Moving into 2020, we will continue to expand the functionalities of the data portal and Ghost Gear Reporter app, and formalize data partnerships with new and existing data contributors.

The GGGI will continue to encourage adoption of the BPF in global supply chains, fisheries policies and seafood certification schemes, as well as invest in scaling up existing solution projects focusing on implementing elements of the BPF — such as the GGGI gear marking project in Indonesia, our ongoing work in the Caribbean, and working with fishers in Maine on gear loss prevention strategies.

We will continue to invest in projects that follow our project blueprint such as in the Caribbean with hotspot mapping; innovative gear testing, marking, and tracking; strategic gear removal; and capacity building, knowledge transfer, and action planning through BPF workshops.

We will launch new BPF guidance tools focused on fishing companies, and retailers and a new BPF dedicated to aquaculture operations. As with the current BPF, we will present a draft framework for aquaculture gear based on literature, industry practice and research, which will be followed by a global industry consultation to gain insights from several different stakeholder perspectives and ensure the recommendations therein are practical, relevant and achievable.



Photo credit: Shin Arunrugstichai

GRANTS

We will continue Joanna Toole's legacy by supporting World Animal Protection and the Joanna Toole Foundation's Joanna Toole Ghost Gear Solutions Award, and through the Joanna Toole Internship Program alongside OceanCare Center for Coastal Studies and the Joanna Toole Foundation.

RAISING AWARENESS

We will continue to reach hearts and minds on the ghost gear issue in mainstream media, trade press, through digital outreach on GGGI and Ocean Conservancy platforms, new reports on the implementation of the BPF, evergreen and topical blogs, and by participating in high-profile events and webinar series for members.

Increasing our profile and that of the ghost gear issue has never been more important.

OUR MOMENTUM AND OUR MOMENT

We have reached a pivotal year for the ocean in 2020. With so much achieved already, and the growing number of stakeholders committed to solving the problem, the opportunity is collectively ours for the taking. Under the GGGI, we stand united in our commitment to reduce the impact of ghost gear on our ocean.

Our vision also remains clear. We will use the coming year to grow and capitalize on 2019's tide of fresh global interest, engagement and action on ghost gear. In these current challenging times, and in the years ahead, we are committed to maintaining our momentum, our focus, and our position as the global leaders and changemakers around the ghost gear issue.

The GGGI continues to demonstrate that when we are all aligned with a specific goal, we are capable of great things. Together, we can help solve this massive challenge and make the ocean healthier, cleaner and safer for all.



Photo credit: Shin Arunrugstichai



Photo Credit: Shin Arunrugstichai

A STATEMENT ON COVID-19

Since the outbreak of coronavirus COVID-19, our lives have been impacted in ways that few of us could have ever imagined.

Our priority remains the health and wellbeing of our staff, our GGGI Members and their families. Our host organization, Ocean Conservancy, is proactively taking measures to protect its employees and support them during this time of crisis, and that includes the GGGI team. We encourage all to continue playing their part in responding to COVID-19 to #FlattenTheCurve by following their government's physical distancing and health precautions. We are also extremely grateful to those working on the front lines in health care, research, transportation, service industries and more around the world.

Though we are all working remotely and have implemented travel bans during these uncertain and unprecedented times, our work on ghost gear continues unabated. We will continue to leverage existing technology to connect with our members and to further our work on this critical ocean issue. Wherever you are, please know that we are grateful for your efforts and we look forward to continuing our work together with on-the-ground projects once we've reached the other side of this pandemic. In the meantime, to all of our members and colleagues: stay safe, stay healthy and know that we're here to support you however we can. We will get through this pandemic the same way we will realize our goal of a healthy, productive ocean – by working together.



“ Without support from GGGI, Myanmar Ocean Project would have been unable to raise the alarm about the severity of ghost gear issues in Myanmar. Not only has being part of GGGI allowed Myanmar Ocean Project to survey sites and engage with fishers, it has given the community hope in the conservation of the ocean. ”

THANDA KO GYI
MYANMAR OCEAN PROJECT

The GGGI is the world's only cross-sectoral alliance committed to driving solutions to the problem of lost, abandoned and otherwise discarded fishing gear worldwide.

FOR FURTHER INFORMATION

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[@GGGInitiative](https://twitter.com/GGGInitiative) 

ghostgear.org

