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UNEP(DEPI)/CAR WG.44/INF.7  
20 December 2022

Original: ENGLISH

Sixth Meeting of the Scientific and Technical  
Advisory Committee (STAC) to the Protocol  
Concerning Pollution from Land-Based Sources and  
Activities in the Wider Caribbean.

Virtual, 01 to 03 February 2023

## **Report on the work on the Caribbean Node for Marine Litter Management (2021-2022)**

*This meeting is being convened virtually. Delegates are kindly requested to access all meeting documents electronically for download as necessary.*

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## **Report on the work of the Caribbean Node of the Global Partnership on Marine Litter (GPML-Caribe) 2021-2022**

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The Caribbean Node of the Global Partnership on Marine Litter (GPML-Caribe) represents a partnership for national and regional organizations, governments, research, and technical agencies and individuals, that work together to reduce the quality and impact of marine litter in coastal zones of the Wider Caribbean Region. The Gulf and Caribbean Fisheries Institute (GCFI) is currently the co-host of GPML-Caribe together with the Cartagena Convention Secretariat.

### **1. Reduction of Fishing Gear Loss into the Marine Environment in the Caribbean**

In partnership with the Global Ghost Gear Initiative (GGGI) and funded by Fisheries and Oceans Canada this project aimed to minimize the occurrence and impact of ALDFG in extreme weather events. This project focuses on effectively integrating the GGGI Best Practice Framework into the Caribbean context, and subsequently testing those best practices. A baseline of hotspot locations in identified countries was determined and gear removal activities to ground-truth this hotspot was also conducted. Additionally, the availability of in country port reception facilities was investigated along with the feasibility of recycling fishing gear locally or regionally. This work has already been completed in Jamaica, Grenada, Belize, Montserrat and Mexico and is currently being expanded to Trinidad and Tobago. Gear technology testing was also piloted in Jamaica with Blue Ocean Gear and Resqunit gear being issued to 17 fisher folk for testing and monitoring of gears across the island at ten landing sites with this work subsequently being expanded in 2022 with 150 Resqunits. The use of Unoccupied Aerial Vehicle (UAV) Surveys and Artificial Intelligence (AI) Algorithms was expanded to Belize in order to develop a neural network (NN) to detect lobster traps in images captured by UAVs. This analytical tool would allow for the assessment of trap-use at large scale throughout areas of interest, in order to monitor the extent of lobster trapping both within and outside the fishing season. This technique can also be used to reduce the resources allocated to surveying this and other marine protected areas (MPAs) by tackling this widespread issue on a more targeted and efficient basis.

### **2. Creating partnerships to promote the Clean Seas Campaign via the 2021 International Coastal Clean-up in Saint Lucia**

Previously undertaken in Saint Lucia, this project will support coastal and underwater cleanups in a bid to collect and properly dispose of debris that has made its way into the ocean, to the detriment of marine

ecosystems and wildlife. Efforts will lead to the development and broadcasting of a video documentary recording the event. The project will also support data collection and reporting to the Ocean Conservancy, managers of the annual International Coastal Clean-up. This project will be implemented island-wide in Saint Lucia. Activities will target students, members of the general public, users of biodiversity, Government officials, policy-makers, and the private sector and will include programs to raise awareness on the issues affecting marine resources (particularly single-use plastic pollutants).

### 3. Whitehouse and Negril Solid Waste Reduction Project

As a follow on to the Whitehouse & Bluefields Solid Waste Reduction Project, the Sandals Foundation, has developed a project that will focus on the: reduction of Covid-19 litter, provision of sustainable meal containers in schools, removal of plastic bottles in Whitehouse to a recycling plant, administration of skills training about composting, and a public education component of the project. The Project seeks to educate and provide residents, students and school administrators, along the south-western coast of Jamaica with a structure for better solid waste management. This project ultimately aims to reduce and prevent pollution on both land and sea.

### 4. Action Plan for Harmonized Marine Litter Monitoring in the Wider Caribbean Region – Phase I

The UN Environment's Caribbean Environment Programme (UNEP-CEP), and the Gulf and Caribbean Fisheries Institute (GCFI), co-hosted a workshop in Miami focused on harmonizing marine litter monitoring in the WCR. To achieve a harmonized marine litter monitoring network within in the Wider Caribbean Region that also fits with the global context, it is recommended that an action plan be developed that includes the most up to date methodology that is consistent with global harmonization instruments, a capacity inventory of regional stakeholders, an investigation into potential funding opportunities, and a rollout strategy based on best practices.

### 5. Microplastics in the Amazon: current knowledge and new contributions

This project aimed to systematically review the current literature about microplastic pollution in the Amazon ecosystem, presenting a synthesis of the knowledge and exposing the main limitations and challenges in sampling and processing microplastics in the region. In addition, new contributions to the scientific knowledge on microplastics contamination of the Amazon biota was produced, including the evaluation of the ghost shrimp *Lepidophthalmus siriboa* as a potential biomonitor of microplastic contamination for the region and the development of a non-invasive method to extract MPs from the gastrointestinal tract of *Bunodosoma cangicum*, the most common sea anemone on the Amazon coast.

### 6. Identifying hotspots of marine litter using remote sensing technologies

A proposal was developed to identify hotspots of marine litter using remote sensing technologies to provide guidance on identifying plastic leakage "hotspots" along the plastic value chain and prioritizing actions once the hotspots are identified. The aim of this work would be to identify source and sink hotspots of marine litter in the Caribbean using remote sensing, Geographic Information Systems (GIS) and modeling technologies. The intended outcome would be to produce actionable information about marine litter that could be used to prevent marine litter leakage into the Caribbean and inform clean-up efforts

### 7. Assessing the feasibility of using sargassum as a raw material for developing alternatives to single use of plastics and styrofoam in the Caribbean

Grupo Puntacana (GPC) is a tourism resort community in the eastern Dominican Republic with a distinguished history as a sustainable tourism destination. With the massive arrivals of sargassum to the coast of the Dominican Republic in 2011, GPC has been forced to develop a variety of innovative management

strategies to remove the algae from its coasts, as well as developing novel approaches to protecting its beaches and coastlines through the deployment of floating booms (barriers) and several unique collection systems. This proposal aimed to define collection and pre-processing alternatives of sargassum, research and develop a pilot production of bioplastics, and elaborate a feasibility proposal for industrial processing and commercial-scale production and utilization of sargassum.

8. Conduct research and formulate the framework for a strategy to address environmental pollution and contribute to waste prevention and reduction in the Caribbean tourism sector

A partnership was formed with the Caribbean Tourism Organisation to conduct research and formulate the framework for a strategy to address environmental pollution and contribute to waste prevention and reduction in the Caribbean tourism sector. This work involved the development of educational and capacity building tools for the improvement of waste management activities undertaken by tourism stakeholders.

9. Developing a Fisher Led ALDFG Awareness Project

This 2 month project leveraged the GCFI's expertise as co-host of the GPML-Caribe by harnessing previous Gladding Memorial Award (GMA) Winners to implement a community based outreach program focused on raising awareness on abandoned, lost and otherwise discarded fishing gear (ALDFG). The Gladding Memorial Award recognizes fishers with an enduring vision for the sustainable and wise use of marine resources and is awarded annually by GCFI. Two of the most recent GMA recipients; Winsbert Harry (Saint Vincent and the Grenadines) and Cecil Marquez (Grenada) were selected to pilot this work, with the overall goal being to expand this to other areas within the region.

10. Supporting early career marine litter researchers

Two student scholarships were advertised on listservs, social media, email and relevant websites. Five applications were received from all female applicants from Belize, Brazil, Honduras and Mexico. These were reviewed, and two \$5000 scholarships were awarded.

11. Supporting the preparations and logistics of the 7IMDC in Busan, Republic of Korea

GCFI facilitated the delivery of travel awards determined by the 7IMDC Executive Committee for select participants to the 7th International Marine Debris Conference. This involved the design of the application form and subsequent review and selection of candidates. GCFI also supported the preparations and logistics of the 7IMDC by liaising with the 7IMDC Executive Committee and also by serving on the Communications sub-committee and providing graphic design support and also lending technical support to the Executive Committee based on previous experience with organizing Hybrid meetings. Whilst onsite in Busan, GCFI Staff assisted the 7IMDC Executive Committee at registration, networking activities and other onsite logistics and operations.

12. Hosting a Technical Session at the 7<sup>th</sup> International Marine Debris Conference (7IMDC)

In partnership with the Cartagena Convention Secretariat, a 2-hour technical session entitled "Fostering partnerships to address marine litter in the Wider Caribbean Region" was convened at 7IMDC and co-chaired by Christopher Corbin and Fadilah Ali. The aim of this session was to highlight how a Regional Node supported by a Regional Agreement can facilitate cooperation and action on marine litter in the WCR via multiple innovative approaches.

13. Facilitating community-based marine litter and MPA projects under the ACP MEA Project

GCFI through its MPACONnect and GPML-Caribe Initiatives supported the development of criteria for a small grants programme in partnership with the Cartagena Convention Secretariat. The Call for proposals was

widely distributed with a total of 26 proposals being submitted with 15 proposals being shortlisted and 9 proposals being selected for funding. Through this small grant programme, community based projects with a focus on plastic reduction, reuse and recycling were awarded with funding in September 2022. The selected projects include:

<b>Project Title</b>	<b>Project Location</b>	<b>Agency</b>
Community Based Conservation at Cuba's Guanahacabibes National Park	Cuba	The Ocean Foundation
Bluefields Bay MPA Marine Litter Research, Education and Multi-Site Cleanup Event	Jamaica	Bluefields Bay Fishermens Friendly Society (BBFFS)
Waste, People and Reef Health	Bay Islands, Honduras	Bay Islands Conservation Association (BICA)
Citizen science as a management strategy for marine litter in the biosphere reserve of Cienaga Grande de Santa Marta, Colombian Caribbean	Santa Marta, Colombia	Institute for Marine and Coastal Research (INVEMAR)
Plastics Solutions Academy	Belize	Sea of Life Caribbean Inc
Reduit and Vigie Beach Marine Litter Prevention Project	Saint Lucia	Greening the Caribbean Inc.