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Eleventh Meeting of the Scientific and Technical
Advisory Committee (STAC) of the Protocol
Concerning Specially Protected Areas and Wildlife
(SPA/W) in the Wider Caribbean Region

Panama City, Panama
30 June – 3 July 2025

Report of the Joint Monitoring and Assessment Open Ended Working Group and Sargassum Working Group Meeting/Workshop (Hybrid)

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



Report of the Joint Monitoring and Assessment Open Ended Working Group and Sargassum Working Group Meeting/Workshop (Hybrid) March 18-20, 2025 Trinidad and Tobago



ACRONYMS

CEP	Caribbean Environment Programme
COP	Conference of Parties
CIMAB	Centre of Research and Environmental Management of Transport
CLME+	Caribbean Large Marine Ecosystems+ project
CRew+	Caribbean Regional Fund for Wastewater Management+ project
GEF	Global Environment Facility
IMA	Institute of Marine Affairs
LBS	Land-Based Sources of Pollution
OEWG	Open-Ended Working Group
RAC	Regional Activity Centre
RAN	Regional Activity Network
SPAW	Specially Protected Areas and Wildlife
STAC	Scientific and Technical Advisory Committee
SDG	Sustainable Development Goal
UK	United Kingdom
UN	United Nations
UNEP	United Nations Environment Programme
USA	United States of America

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Executive Summary

Overview

The United Nations Environment Programme (UNEP) Cartagena Convention Secretariat in collaboration with the Regional Activity Centers (RACs) - Institute of Marine Affairs (RAC-IMA), Centre of Research and Environmental Management of Transport (RAC-CIMAB) and SPAW-RAC – hosted the Joint Monitoring and Assessment Open Ended Working Group (OEWG) and Sargassum Working Group Meeting/Workshop in Trinidad and Tobago on March 18-20, 2025.

The joint hybrid workshop is a key initiative aimed at enhancing regional coordination and integration between the AMEP and SPAW sub-programmes of the Cartagena Convention to address the challenges posed by Sargassum inundations and nutrient pollution. It is the response to Decision 1 of the 6th LBS COP and Decision V of the 12th SPAW COP, which called for strengthening synergies between the LBS and SPAW Protocols, particularly on issues related to eutrophication, sargassum management, and marine biodiversity conservation.

Funding and Participants

This meeting was funded by the Governments of France and the Netherlands and UNEP Headquarters through the Regional Seas Programme Coordination Project. It brought together over 60 key stakeholders, including members of the SPAW Sargassum Working Group and the OEWG of the LBS Protocol, as well as partners such as the ACS Commission, Caribbean Fisheries Mechanism (CRFM), and the European Union (EU). Representatives from the U.S. National Oceanic and Atmospheric Administration, U.S. Environmental Protection Agency, and U.S. Department of State attended online in listening mode.

Presentation Focal Areas

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Trinidad and Tobago



The meeting provided a comprehensive overview of sargassum influxes in the Wider Caribbean Region and their potential links to nutrient pollution, identified key data gaps and research needs to improve regional monitoring and assessment efforts. It also enhanced coordination between the SPAW and LBS Protocols, fostered enhanced collaboration between regional activity centres (RACs) and regional activity networks (RANs) to ensure more effective responses to these challenges.

Outcomes

A key outcome of the workshop was the identification of joint activities for inclusion in both the Sargassum Working Group's Action Plan and the Monitoring and Assessment OEWG Work Plan, strengthening the integration of thematic linkages between nutrient pollution, eutrophication, and marine biodiversity conservation. Additionally, participants prepared a definition of sargassum inundation and outlined technical recommendations to be considered at the upcoming LBS and SPAW Scientific and Technical Advisory Committees (STACs), reinforcing regional strategies to mitigate nutrient enrichment, manage sargassum influxes, and enhance the resilience of marine and coastal ecosystems.

The final recommendations were: -

- Request the Contracting Parties of the SPAW Protocol to approve the Sargassum Working Group Action Plan and that the action plan be presented to the 7th LBS STAC.
- Request that the Contracting Parties give consideration to moving towards an integrated State of Convention Area Report, commencing with an integrated chapter on Sargassum developed with input from the LBS and SPAW working groups.
- Contracting Parties request that SPAW Conference of Parties (COP) 13 recommends to the IGM 21 COP 18 of the Cartagena Convention that a new working group on Sargassum be established at the Cartagena Convention level, that will have representation across all contracting parties.
- Considering the implications that Sargassum inundation management and disposal can have on the conservation and sustainable use of marine coastal resources, the Contracting Parties recommend to the SPAW STAC11, LBS STAC7 to endorse the definition of "Sargassum inundation" as follows:

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Sargassum inundation is the massive accumulation of floating brown seaweed along coastlines, beaches, and shallow waters, driven by ocean currents, wind, rising sea temperatures, and nutrient excess. While sargassum provides valuable marine habitat in the open ocean, excessive buildup in coastal areas disrupts ecosystem health livelihoods, turning waters anoxic, harming marine life, and releasing toxic gases, trace metals and metalloids as they decay. These events also contribute to plastic and microplastic accumulation, intensifying their negative impacts. In recent years, sargassum inundations have become more frequent and severe, posing environmental, economic, and social challenges across the Wider Caribbean and other affected areas.

By aligning efforts under the Cartagena Convention, the meeting facilitated greater cooperation between regional and international partners, ensuring coherent policy development and technical collaboration.

The meeting also facilitated the strengthening of cross-sectoral linkages between nutrient pollution control and sargassum management which will contribute to more effective mitigation strategies, supporting the resilience of marine and coastal ecosystems across the Wider Caribbean Region (WCR).

-End of Executive Summary-



Overview

The Joint Monitoring and Assessment OEWG and Sargassum Working Group Meeting/Workshop was held on March 18 -20, 2025 onsite in Trinidad and Tobago and online.

Day 1

1. Opening and Welcome Remarks

Susana Perera, Programme Management Officer of UNEP in the Cartagena Convention Secretariat (CCS) opened the workshop and delivered the welcome remarks. She gave an overview of the workshop objectives which were to:

- Provide an overview of the Sargassum inundations in the Wider Caribbean Region and the potential link between these mass inundations and rising nutrient pollution in the marine environment
- Identify data gaps, and needs as well as opportunities for improved monitoring and analysis
- Respond to the decisions of the LBS and SPAW COPs for greater integration between the AMEP and SPAW sub-programmes
- Strengthen synergies between AMEP and SPAW protocols and identify opportunities for further collaboration



- Make recommendations for the LBS and SPAW Scientific Technical Advisory Committees, the next inter-government meeting in June and the Conference of Parties (COP) of the protocols and the Cartagena Convention in October.

She thanked the Institute of Marine Affairs (IMA), colleagues and the team from the Secretariat for helping to organize the meeting and the collaboration of the Governments of France, the Kingdom of the Netherlands, and UNEP Headquarters for their financial support.

2. Introduction of Participants

Laverne Walker, Programme Management Officer of UNEP CCS invited participants to introduce themselves. Over 60 professionals largely from the marine /scientific community attended the workshop of which 31 were online as well as interpreting and communications specialists. Representatives from the U.S. National Oceanic and Atmospheric Administration, U.S. Environmental Protection Agency, and U.S. Department of State attended online in listening mode. Participants were drawn from the UK, Europe, USA, Latin America, Africa and the Caribbean. They represented regional institutions, governmental, national authorities, non-government and international organizations, academic and oceanographic scientific community, and the Regional Activity Centers (RACs) and Networks (RANs) of the SPAW and LBS protocols.

Presentations

3. Overview of the Biology, Life Cycle and Distribution of Sargassum - Dr. Hazel Oxenford, CERMES, UWI

Dr. Hazel Oxenford, of CERMES, UWI, presentation focused on Pelagic Sargassum, its distribution and biology.

She gave an overview of the pelagic sargassum taxonomy noting that there were 2 species and several morphotypes. There are brown seaweeds within the multi- species of *Sargassum* genus. It is unique as it spends its entire lifecycle adrift in the ocean and travels over long distances like floating rafts aided by ocean currents and winds. In recent times there has been a new consolidation area in the north equatorial region where ocean currents hold them for a greater part of the year. When released they cross over into the Caribbean and the Gulf of Mexico in a great block referred to as the Atlantic Sargassum Belt.

Typical of seaweed, sargassum is 85% water –dry biomass rich in polysaccharides, ash, fibre, proteins, lipids, vitamins, and minerals all of which are potentially valuable. The

downside is that they carry contaminants such as trace metals, metalloids, and arsenic. Arsenic is most abundant, representing 55-60% and is of the greatest concern. Citric acid and water may help to reduce the levels of arsenic.

When sargassum degrades it causes terrible pollution and a brown tide or a damaging brown plume which features reduced light, low dissolved oxygen, high levels of nutrients and contaminants, increased temperature and acidity. When trapped along the shore in wet zones it emits toxic gases.

History and Growth

Colour and fouling are used as a proxy of age. It dies quickly when trapped along coastlines. It sheds constantly from below the rafts, and with heavy winds sinks to the ocean floor when heavily encrusted and dies rapidly. It proliferates by vegetative growth. Growth rates are challenging to measure. Studies done in Barbados and Mexico show that growth rates vary with temperature, species and variety.

It is fastest growing in the cooler periods. Its epiphytic flora and fauna are very diverse. Sargassum is a nurturing haven for fish larvae.

Conclusion

The associated biodiversity of sargassum is variable. Sargassum can be a vector of invasive alien species. The issue presents a management conundrum. Sargassum embedded along shorelines impacts and harms biodiversity, tourism and society's health and well-being. It is of high ecological importance in the open ocean. Harvesting sargassum at sea will reduce biodiversity and fishing opportunities.

4. Overview of the Sargassum Bloom in the Wider Caribbean Region -Kristie Alleyne, UWI

Dr. Alleyne's presentation covered timeline, potential causes such as increased nutrient flows, warmer ocean surface waters, changing ocean currents as well as the impact of sargassum particularly social, economic and environmental.

Since 2011 sargassum has been affecting the Caribbean with various impacts depending on the timing, strength of the currents and wind patterns. Today it has become an annual phenomenon peaking in the summer. Yearly total blooms have been increasing over time.



Recurring blooms form in the brown Atlantic Sargassum Belt. Ocean currents, winds shift, nutrients, and temperature are drivers of the blooms.

Floating sargassum is carried by currents and winds at different times of the year. The Intertropical Convergence Zone (ITCZ) influences the migration from the equatorial area of Africa to the North Sea of the Tropical Atlantic.

Negative effects of sargassum.

These are mostly social, economic and environmental. When sargassum crashes to the seashore it forms long shoreline-blankets or clumps which affect sea turtles and tourism. During mass inundations waters turn brown, corals become stressed, near shore sea grass increases in organic matter in the water and contributes to coastal erosion.

There is significant impact to fishers. It poses a health hazard with prolonged exposure. Its fumes cause respiratory problems, skin rashes and nausea. It is a major threat to tourism and the economies of tourism dependent nations.

Questions

These addressed the presence of arsenic in the seaweed, sargassum uses, impacts and risk management. It was revealed that arsenic can be treated with citric acid and water. Arsenic occurs naturally in the open ocean and sargassum picks it up.

In Mexico sargassum is used to extract high value products, which have commercial value. St Lucia exports it and uses it as fertilizer and Barbados as fuel.

In Jamaica whilst there has been an environmental response the recommendation is for health practitioners to track health and social impacts. In the French Caribbean there are monitoring devices to measure the levels of sargassum. In Martinique gas levels are monitored where sargassum is stuck in wet environments and nearby communities. There are early warning systems and alarm levels.

5. Opportunities for controlling the Sargassum Blooms in the Wider Caribbean Region by Dr. Rahanna Juman, Institute of Marine Affairs (IMA)

Dr. Juman's presentation featured a regional 3 -year project (2022-2025) valued at USD12.3m which aims to collect, remove and dispose of sargassum by providing equipment



and technical expertise to countries. Funded by Japan and executed by UNDP in Barbados, beneficiary countries are Barbados, St Kitts, and Nevis, St Lucia, St Vincent and the Grenadines, Trinidad and Tobago.

It provides for the acquisition of nearshore and offshore equipment fit for the purpose of the removal and disposal of sargassum.

Funding opportunities are needed and are available (CAF, IDB and World Bank) to make investments to turn sargassum into something of value. Many European companies have developed technology to remove arsenic and are developing sargassum related products

such as bio stimulants, emulsifiers, and animal feed. The Caribbean needs to learn from them and how to take it from lab to market and commercialize it.

There is a need to exercise care in commercializing sargassum as in the open ocean it is a habitat for marine life; monitor sargassum influx for example with drones and its impacts on marine ecosystems; create a standardized protocol for the collection, transport and disposal of sargassum as well as develop cohesive national and regional policies and legislations from collection to commercialization and ownership. Public education is also important.

6. National Perspectives- Threats, Impacts, Opportunities of Sargassum

Representatives from public bodies in Jamaica, Dominican Republic, Trinidad and Tobago made presentations about their own experiences with sargassum and managing the attendant challenges.

Jamaica- Monique Curtis, Manager, Ecosystems Branch Representative and Lisa Kirland Manager –Pollution Monitoring and Assessment Branch- National Environment Planning Agency (NEPA)

Ms. Curtis gave an overview of the national response strategy for dealing with sargassum inundation. She highlighted the creation of an enabling environment for managing the problem and its impacts on tourism and fisher folk.

She disclosed that the national response strategy involves public sensitization, community mobilization, research, and product development. There are also collaborations with the UWI to streamline research, data collection, and distribution.



NEPA relies on the University of South Florida for data on the sargassum watch system. They have forged partnerships with UWI to set up a working group to produce related publications. They are also exploring potential commercial uses, for example pharmaceutical and cosmetic products.

She also highlighted the NASA GLIMR ocean color mission and its application for real-time Sargassum tracking. Scheduled for launch in 2027 this app could be a useful tool for the region.

Kirland stated that Sargassum is a nutrient management issue. In Jamaica the way forward includes the engagement of the major provider of sewage services to expand its network in marine areas, continued update of the draft Wastewater Reuse Policy, engagement of stakeholders, and the implementation of a project to facilitate upgrade of school sanitation.

Trinidad and Tobago National Response to Sargassum

Rahanna Juman -Institute of Marine Affairs (IMA)

Dr. Juman reported that 2011 was a watershed year. Since that time large quantities of seaweed have been washing up on the shores of Trinidad and Tobago. In 2015 it got very bad especially along the east coast. Turtle nested beaches, villagers, and fisher folk were significantly impacted. In Tobago, the main tourism isle, it significantly affects coral reefs.

National Response

In 2015 Trinidad and Tobago developed a National Sargassum Response Plan. It involves the collection, removal and disposal of the seaweed and research in collaboration with the UWI. Cleanup cost in 2015 in Speyside was TT\$4million. There is a National Sargassum Task Force, which is the emergency coordination mechanism for sargassum response. It includes an early warning system. She disclosed there was once an oil spill in Trinidad and sargassum which helped to absorb the oil. The challenge was how to manage the sargassum afterwards.

Dominican Republic (DR) National Perspective

Jonnathan Delance Fernandez – Ministry of Environment and Natural Resources

Since 2011 sargassum has been a threat to the DR affecting fisheries, coastal communities and tourism. It impacts energy supplies as cooling of the energy infrastructure is done with sea water. It is a public health issue.

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The best interventions are when it is near the shore as once it washes ashore management becomes very costly. Recommendations to address the problem include strengthening regional cooperation, increased public education, conducting research to determine its best use, and implementing a related legal framework.

Questions from the Floor

The discussion centered around NEPA and its annual distribution maps. As the beach control authority in Jamaica, NEPA reviews public and private access beaches using its islandwide network of officers to collect data quarterly. NEPA is expanding its monitoring to include quantitative data collection using drone technology.

7. Overview of activities by the Sargassum Working Group- SPAW-RAC-

Ms Auriane Petit of the SPAW RAC presented an overview of the findings of the Sargassum Survey and the draft Sargassum Working Group Action Plan.

Survey Highlights

It included a presentation of the survey results conducted by the SPAW Sargassum Working Group among Contracting Parties, focusing on the effects of sargassum and its impact on the fulfillment of obligations under the Cartagena Convention and its protocols.

The survey started in March 2024 and was conducted in French, Spanish and English. It involved several participants and experts. It sought to identify the needs of contracting parties related to the management of sargassum influx and how it may affect their implementation of their obligations under the SPAW and LBS Protocols of the Cartagena Convention.

The findings of the survey and consultations will inform the update and prioritization of the proposed action plan of the Sargassum Working Group in UNEP (DEPI)/CAR WG. 42/7 for consideration by SPAW STAC11 And COP 13. It was noted that the action plan would be finalized at the end of this meeting/workshop. The report will be presented to the Contracting Parties of the Cartagena Convention.

Results of the Survey

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The results featured sargassum impact, management plans and management needs. The major challenge is coordination of management. There is a need to manage the ecological impact of sargassum inundation, secure funding, develop improved monitoring and forecasting as well as institute a regulatory legal framework. An assessment of its impact on human health, and economies and opportunities for viable sargassum businesses would also prove beneficial.

Relevance to SPAW

The study also included the negative impact of sargassum on species- (sea turtles, corals birds and manatees), habitat, as well as coral reef destruction and decline in water quality. The action plan which has been prioritized is being updated and will focus on governance, research, management, communications and awareness; and sustainable financing. It will be presented at the next SPAW STAC11 and COP13 and the LBS STAC5 and COP7.

8. Overview of Activities Related to Sargassum by the LBS OEWG

Presentation- Regional Nutrients Reduction Strategy and Action Plan -presented by Marlen Perez, RAC CIMAB

It is important to have a regional nutrients strategy and link the issue of nutrients reduction with sargassum in the region. Agriculture is the main source of phosphorous in the region. Modeling identified priority areas for working groups to address the regions with the highest loads of nutrients, harmful algae, and those regions with highest risks.

The strategy (2021-2023) was developed to define regional standards and criteria for nutrient discharges, support institutional policy and legal reforms, contribute to relevant regional and global commitments and operationalization of the Caribbean Platform for nutrient management and the UN Global Campaign on sustainable nitrogen management.

For the strategy there are 5 pillars which are directly linked to the SDGs, an implementation and monitoring framework, a compendium of best practices and recommendations. The pillars include sustainable nutrient management in agriculture /livestock farming, (key to the successful implementation of the strategy), domestic wastewater effluent and coastal water quality.



Presentation- Regional Criteria and Standards for N and P Loads in Domestic Wastewater Discharges - Dr. Maurice Narcis, IMA

This presentation referenced LBS Annexes 1–4 with a major focus on Annex 3- nutrient pollution. Land-based activities are responsible for this pollution which goes into the marine environment and affects the ecosystem.

Eutrophication occurs from an increase in nutrients to fresh water into marine systems which leads to abnormal changes in plant growth in the marine system. It causes exponential growth of algae. When it dies it decays, uses up oxygen in the waterways, suffocates and kills fish, blocks sunlight, and causes red tides.

There is a Small-Scale Funding Agreement (SSFA) project with support of RAC-CIMAB (Cuba) which aims to improve capacity in the management of coasts and oceans; target implementation of innovative, technical small-scale solutions in the WCR); and reinforce cooperation between RAC-IMA and the CCS to prevent marine pollution.

Key outputs of the SSFA project include the establishment of water classification guidelines according to the LBS protocol, regional criteria and standards for nutrients, recommendations for amendments to LBS protocol and review and update of the nutrient reduction management strategy.

9. Questions from Working Group Presentations

There were no questions for the working group presentations

10. Presentations from Countries, Partners and Observers on existing programmes and initiatives addressing Sargassum or nutrient reduction

Caribbean Regional Fisheries Mechanism (CRFM) - Sanya Compton

This presentation featured sargassum products for climate resilience in the Caribbean.

Formed in 2002, the CRFM was operationalized in 2003 to promote the sustainable management of fisheries in the region. In recent years it developed initiatives related to sargassum, seeking innovative approaches for its sustainable use while ensuring the conservation of its ecological integrity.



Funded by the New Zealand Ministry of Foreign Affairs and Foreign Trade, the CRFM is engaged in a project which aims to mitigate the economic impact of the sargassum tide. It embraces the concepts of Caribbean Agri -business and circular use.

The project has 4 phases. Phase 1, which focused on research and which raw materials and products could be made has been completed. Phases 2 and 3- which involve product and process development, commercialization strategy formulation, outreach and supply chain development are underway and close to completion.

For products they reviewed pharmaceuticals and cosmetics, fertilizer and sustainable building materials (with a special focus on bio stimulants). This includes a commercialization strategy which supports marketing.

“Do no harm”

The team is using a “do no harm” to the environment approach. This involves offshore harvesting, product development, rigorous testing, optimizing process, field trials and engaging in private sector partnership with Caribbean Chemicals Ltd. There is already a pre-licensing agreement based in Trinidad, and a manufacturing plant in Jamaica.

There are plans to expand to the Dominican Republic and to develop a pilot plant in Jamaica. Regarding residue, a composting option is being explored. A bauxite company in Jamaica has expressed interest in using the residue for construction material.

Project achievements include developing liquid Bio stimulate. The project received Ministerial endorsement of the 14th special meeting of the CRFM which indicated that the initiative should be accorded high priority given the significant product development, job creation and blue economic transformation opportunities.

REMARCO – (Colombia)

REMARCO is a voluntary, nonprofit, regional research entity engaged in over 15 years of south -south cooperation. Its work focuses on SDG 14. It facilitates peer to peer technical cooperation and joint publications. Advancements of REMARCO in the nutrient field include the formation of key partnerships which includes a eutrophication working group; strengthened capacity and enhanced visibility.

Interactive Session



Participants congratulated the presenters and REMARCO's high level of technical capacity. *Discussion centered around the use of sargassum, protocols and best practices for the safe removal of heavy metals. It was pointed out that whilst the goal is to get fresh sargassum before it goes into decay –preferably offshore, it is very expensive to collect in open water.*

Closure of Day 1

Laverne Walker thanked all the presenters and indicated that participants should review the action plan and survey report ahead of the meeting the next day.

The meeting was then adjourned.

-End of Day 1-

Day 2 -March 19

11. Welcome and Review of Day 1

Susana Perera welcomed participants to the second day's workshop proceedings. She recapped the highlights of the previous day noting the special presentations by the UWI on the biology, life cycle and distribution of Sargassum, causes and impacts; the IMA on controlling the sargassum bloom and the valuable insights shared by Jamaica, Dominican Republic and Trinidad and Tobago on how they are handling the threats, impacts and opportunities of sargassum.

She also cited the valuable presentations shared on the nutrients' reduction strategy and action plan by CIMAB; the regional criteria and standards for N and P Loads in Domestic Wastewater Discharges by the IMA as well as reflections on existing programmes and initiatives addressing sargassum and nutrient reduction as expounded by CRFM, REMARCO, and UWI.

Noting that the focus was mostly on the Caribbean, she used the opportunity to give a preview of the upcoming presentations which would provide valuable information from other Regional Seas, notably the OSPAR Commission and the Abidjan Convention for West Africa.

12. Experiences from other Regional Seas Programmes- Michelle Devlin – UK

Ms Delvin's presentation focused on the UK National Assessments for Nutrients, the process of evaluation, the impact of nutrients, as well as the objectives, and role of OSPAR.



She also presented an overview of the Centre for Environment Fisheries and Aquaculture Science. (CEFAS).

Given the UK's trans boundary location they have many operational challenges notably geographical and governance boundaries. She shared how long- term base line data informs critical data for assessments and for reporting to Defra (UK government) on noise, litter, biodiversity and fisheries; as well as national assessments for UK Marine strategy and national and regional assessments for NE Atlantic under the OSPAR Convention (A Regional Seas Convention).

Their work involves investigating, monitoring, assessing and predicting the response of the marine environment to upstream activities. Whilst not a new programme she noted there is an increased focus to provide high quality data that improves decision making. She cited improvements in technology, models, satellite, and data to provide enhanced data capable of answering complex ecological questions.

To understand the impact of elevated nutrients and area of freshwater influence-connecting catchment to coast she revealed that they do risk mapping to understand system changes, improve links between land and sea, as well as track freshwater inputs to improve assessments nationally and internationally. In terms of application, they also use ocean colour data to map freshwater in coastal zones with riverine pollutant loads to map areas of greatest pollution risk. Regarding impact-they combine EO and in-situ monitoring to identify and manage vulnerable habits. For the future they include climate change scenarios and land use change to forecast and manage risk.

OSPAR

She also gave an overview of OSPAR, its objectives and roles as it relates to national monitoring and regional assessments. OSPAR is the mechanism by which 15 governments and the EU cooperate and protect the marine environment of the NE Atlantic. Governed by the OSPAR Convention, its objectives are to reduce pollution, protect biodiversity, and promote sustainable marine development. OSPAR sets standards and guidelines, monitors and assesses the marine environment. It also develops policies and strategies for the protection and conservation of the NE Atlantic marine environment. Noting that 80% of marine pollution comes from land, she shared how they work to evaluate and direct change.

Evaluating nutrients and directing change

She stated that with integration across ecological boundaries, harmonized assessment areas and thresholds, high frequency data being included in assessments facilitates quality status reporting. Additionally, there are considered interactions between pelagic community and eutrophication especially in coastal waters, and greater consideration between eutrophication and climate resilience. She opined that land-based actions/interventions are the principal tools to tackle eutrophication in coastal and marine waters.

Experiences from other Regional Seas Programmes- the Abidjan Convention

Dr. Issola delivered an overview of the Abidjan Convention and shared case studies of the experiences of 3 African countries with sargassum management.

The Abidjan Convention is the Convention on Cooperation for the Protection, Management and Development of the Marine Environment and Coastal Areas of the Atlantic Coast of the West, Central and Southern African Region. He underscored management policies, collaborations at regional and international levels. He also cited national collaborations which involved key stakeholders such as academia, research institutes and local communities.

Management Policies

Regarding Management Policies he cited Decision CP 12/13 on combating marine and coastal invasive species and Decision CP 13/20 on the proliferation of sargassum algae.

He stated that collaborations at regional and international levels included the Abidjan Convention network of environmental journalists and a regional expert group on sargassum involving scientists, policymakers and other stakeholders. In 2022, there was a collaboration with Cartagena Convention on calibrating a model to predict movements of sargassum from the North to West African coasts. There are also other initiatives geared towards establishing regional programmes to facilitate collaboration and sharing of experiences among stakeholders.

He shared 3 case studies (Cote d'Ivoire, Ghana and Sierra Leone) which highlighted some of these collaborations with key stakeholders notably academia, local communities, and research institutions. He added seaweed was proving to be of immense value. The private



sector transforms it to briquettes, some communities use it for manure and others use it for beach stabilization.

Interactive Session

Participants congratulated the presenters on their excellent presentations. They asked questions related to OSPAR and securing nations cooperation in providing information for the surveys, collaboration with private organizations and early warning systems. They also discussed the link between nutrients and sargassum and the treatment of sargassum as an invasive strategy.

It was revealed that OSPAR makes it easy to submit data into a national monitoring database regularly, once per year. There are multiple data flows. OSPAR manages the process. They also secure industry buy-in.

In Africa collaboration with research institutes helps to determine value added products and initiatives. There is a network of scientists and journalists who work together and share information about hazards and products. In some countries there are incidents of sargassum coming from other territories. As it is not produced locally, it can be treated as an invasive species.

Laverne Walker advised that CCS could help where standards and guidelines are concerned as well as with sharing of data. She then thanked the presenters for their presentations and attendees for their active participation.

13. Break out groups on specific topics related to the draft Sargassum Working Group Action Plan

Participants were briefed on their next activity which involved the preparation of a definition for sargassum inundation. Two groups were formed: one with the in-person participants who spoke Spanish, and another with the in-person English-speaking participants together with the virtual participants. Participants offline were encouraged to take notes and share with the CCS so that their inputs could also be reflected in the final version. They were reminded that the plan will be presented to the 11th meeting of SPAW STAC set for Panama, June 30-July 4.



14-15. Discussion on potential collaborative actions and its inclusion in the updated SPAW Sargassum Working Group Action Plan and report in plenary

Laverne Walker underscored the need to develop a more integrated LBS SPAW report based on a recommendation of the last LBS COP. She suggested that there could be a chapter on Sargassum reflecting inputs from LBS and SPAW-a potential area that the 2 working groups could collaborate on via their RACs.

16. Discussion on definition for Sargassum Inundations -

Susana Perera guided the discussions for the definition of sargassum inundations. Several iterations were shared and were informed from AI, Google, technical and scientific reports. It was agreed in principle that the definition should reflect how sargassum is formed, at what point it becomes a hazard, as well as its impact and effects on the environment, health and human activities.

Sargassum inundation is the massive accumulation of floating brown seaweed along coastlines, beaches and shallow waters, driven by driven by ocean currents, wind, rising sea temperatures, and nutrient excess. While sargassum provided valuable marine habitat in the open ocean, excessive build up in coastal areas disrupts ecosystem health livelihoods, turning waters anoxic, harming marine life and releasing toxic gases, trace metals and metalloids as it decays. These events also contribute to plastic and microplastic accumulation, intensifying their negative impacts. In recent years, sargassum inundations have become more frequent and severe, posing environmental, economic, and social challenges across the Wider Caribbean and other affected areas.

Adjournment

The meeting was then adjourned.

-End of Day 2-

Day 3-March 20

19. Review /Summary of Day 2 (March 19, 2025)



Tamoy Singh Clarke of the CCS delivered a recap of the previous day's proceedings. She highlighted the experiences of other Regional Seas Programmes as presented by Michelle Devlin of OSPAR in the UK and Yacoub Issola of the Abidjan Convention-Africa.

She highlighted the reflections of the breakout groups on specific topics related to the draft Sargassum Working Group Action Plan and reminded that the plan will be presented to the 11th meeting of STAC set for Panama, June 30-July 3. She noted plans to develop a more integrated LBS – SPAW report based on a recommendation of the last COPs and the suggestion to include a chapter on Sargassum as well as the draft definition of sargassum developed by participants.

Laverne Walker continued to facilitate the day's proceedings reverting to the discussion on the Sargassum inundation definition. Participants formulated the following definition in English and Spanish.

English Definition

Sargassum inundation is the massive accumulation of floating brown seaweed along coastlines, beaches, and shallow waters, driven by ocean currents, wind, rising sea temperatures, and nutrient excess. While sargassum provides valuable marine habitat in the open ocean, excessive buildup in coastal areas disrupts ecosystem health livelihoods, turning waters anoxic, harming marine life, and releasing toxic gases, trace metals and metalloids as it decays. These events also contribute to plastic and microplastic accumulation, intensifying their negative impacts. In recent years, sargassum inundations have become more frequent and severe, posing environmental, economic, and social challenges across the Wider Caribbean and other affected areas.

Agenda 17

Opportunities for improved data collection and analysis to contribute to CCS data platform and the “State of Reports” - Laverne Walker, Project Management Officer CCS, UNEP.

Laverne Walker cited articles 13, and 16 from the Cartagena Convention and Article 12 from the LBS Protocol which referenced State of Reports.

She highlighted the objectives from the last State of Convention Area Report which include assisting the Contracting Parties of the LBS Protocol to fulfil their reporting obligations by providing a quantitative baseline for monitoring and assessment of the state of the marine



environment regarding LBS pollution; and supporting the WCR Governments in assessing progress towards relevant goals and targets including the SDGs, particularly SDG 14.1.

She also noted the State of Nearshore Marine Habitats in the WCR developed in 2020 which highlights the status and trends of habitats, identifies the drivers and pressures, emerging challenges, and proposes actions to improve management of the target habitats.

Regarding data and information systems she reported that not all Contracting Parties have monitoring programmes in place for example water quality. She remarked that monitoring parameters protocols and guidelines differ across countries, and in some cases country data and information may not be easily accessed and makes it challenging to compare.

REMDAP-Objectives

She also presented on two regional environmental monitoring platforms which have been developed to assist contracting parties strengthen the reporting of data and information related to the marine and coastal environments in the Convention area.

Comments

The interactive discussion focused on the need for a template with standardized information that could be used to make for easy upload. The IMA representative disclosed that while they are monitoring all the time the net needed to be expanded beyond the focal points to include other agencies and technical persons.

18 Presentation of Outputs and Recommendations from Working Group Consultancy-Laverne Walker

Laverne Walker provided a backgrounder for the consultancy. She advised that it was tasked to update guidelines for RACs and RANs and was used as a great opportunity to review the functionality of the Secretariat. It was carried out in 2024 over a period of 3 months. The objectives were to analyze existing governance structure and functioning of Working Groups under the Cartagena Convention and its Protocols and propose guidelines and recommendations for their improved operations in accordance with the Rules of Procedure.

The methodology included desktop reviews, interviews with working group members and reviewing the set- up of working groups from other Regional Seas Programmes.

She also expounded about the SPAW WG. These groups were reconstituted following a recommendation from the 8th meeting of the SPAW Scientific and Technical Advisory Committee (STAC) in 2018. The Secretariat through the SPAW Regional Activity Centre (RAC) and four Contracting Parties developed the groups' Terms of Reference (TORs) that were adopted at STAC 9.

The OEWG on Monitoring and Assessment in support of the LBS Protocol was established by the 15th Conference of the Parties (COP) to the Cartagena Convention in 2019, continuing the work of the Interim Working Group on Monitoring and Assessment.

She highlighted some recommendations from the Consultancy. They include

- Merge 4 SPAW working group into one working group
- Create a mechanism to bring experts from LBS and SPAW working groups together
- Create a database of experts willing to contribute on an ad hoc basis
- Use specific skills needed to complete tasks when soliciting new working group members
- Develop training material for new working group members
- Share meeting reports in official languages
- Hold side events for working group members to give them an opportunity to network
- Host more in person meetings with good notice

Discussion

Susana Perera highlighted the importance of working groups as they drive the work of the protocols. She also noted the need to have representation from all countries, key participants from civil society and NGOs which is essential for driving the work of both protocols. Regarding the approval of experts, it was revealed that Contracting parties can approve and nominate experts and that Observers can provide info to the RACS and the RACs to inform decisions.

20. Towards the development of a joint LBS OEWG and Sargassum WG chapter for the next integrated State of Convention Area Report CCS-Laverne Walker, Project Management Officer UNEP CCS



Laverne Walker noted that the Secretariat was working to identify funds to support the development of the next State of Convention Area Report. During the last LBS COP, Contracting Parties were asked to move towards a more integrated State of Report. This working group could consider developing a joint chapter on Sargassum with input from SPAW and LBS Protocols.

21. Proposal of recommendations to be considered and/or endorsed at the LBS and SPAW Scientific Technical Advisory Committees

FINAL RECOMMENDATIONS

Laverne Walker moderated the discussion for the review of pertinent recommendations and to inform amendments. Participants proposed the final recommendations to be considered by STAC for the SPAW Protocol on Marine Pollution and which will be submitted to SPAW COP as follows.

Request the Contracting Parties of the SPAW Protocol to approve the Sargassum Working Group Action Plan and that the action plan be presented to the 7th LBS STAC.

Request that the Contracting Parties give consideration to moving towards an integrated State of Convention Area Report, commencing with an integrated chapter on Sargassum developed with input from the LBS and SPAW working groups.

Contracting Parties request that SPAW Conference of Parties 13 recommends to the IGM 21 COP 18 that a new working group on Sargassum be established at the Cartagena Convention level, that will have representation across all contracting parties.

Considering the implications that Sargassum inundation management and disposal can have on the conservation and sustainable use of marine coastal resources, the Contracting Parties recommend to the SPAW STAC11, LBS STAC7, the SPAW and to endorse the definition of “Sargassum inundation” as follows:

Sargassum inundation is the massive accumulation of floating brown seaweed along coastlines, beaches, and shallow waters, driven by ocean currents, wind, rising sea temperatures, and nutrient excess. While sargassum provides valuable marine habitat in the open ocean, excessive buildup in coastal areas disrupts ecosystem health livelihoods,



turning waters anoxic, harming marine life, and releasing toxic gases, trace metals and metalloids as they decay. These events also contribute to plastic and microplastic accumulation, intensifying their negative impacts.

In recent years, sargassum inundations have become more frequent and severe, posing environmental, economic, and social challenges across the Wider Caribbean and other affected areas.

22. Way Forward and Next Steps

Laverne Walker noted that any other comments received would be integrated and shared with the working group given this is the last version of the definition of Sargassum inundation.

Closing Remarks

Laverne Walker closed the workshop by thanking everyone for participating. She also thanked the IMA, the CCS Secretariat Staff and other colleagues for their organizational support.

Adjournment

The workshop was then adjourned.

Prepared

March 31, 2025

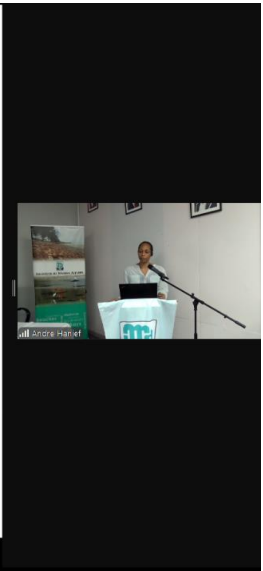
Participants Listing Online and In person

NB. Representatives from the U.S. National Oceanic and Atmospheric Administration, U.S. Environmental Protection Agency, and U.S. Department of State attended online in listening mode.

Participants list

State of Reports

- State of the Convention Area Report endorsed by LBS COP in 2019
- The objectives include assisting the Contracting Parties of the Land-Based Sources Protocol to fulfil their reporting obligations by:
 - providing a quantitative baseline for monitoring and assessment of the state of the marine environment with respect to LBS pollution; and
 - supporting Wider Caribbean Region (WCR) Governments in assessing progress towards relevant goals and targets including the SDGs, particularly SDG 14.1.




zoom Workplace Meeting michelle Devlin's screen

This meeting is being recorded.

UK national assessments for nutrients – how we evaluate the impact of nutrients and the role of OSPAR

Michelle Devlin




Centre for Environment Fisheries & Aquaculture Science Cefas

Audio Video Participants Chat React Share Meeting info Apps English More


This meeting is being recorded.

Alison Christie Marlen Perez He... Issa Oscar Kigon... Interpreter DJ Interpreter LS Brian Dye

Alison Christie Marlen Perez Hernandez Issa Oscar Kigongo Interpreter DJ Interpreter LS Connecting to audio ...




What is REMARCO?



A voluntary, non-profit, interdisciplinary research and cooperation network to facilitate decision taking in front of common challenges and vulnerabilities present in the marine-coastal environment in LAC.

18 Latin American and Caribbean countries are part of REMARCO - Last 15 years



SDG 14


Andre Haniet

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Alison Christie Marlen Perez Hernandez Issa Oscar Kigongo Interpreter DJ Interpreter LS Connecting to audio



Do No Harm Approach



- Offshore harvesting
- Product development
- Robust testing (product, plants, soil)
- Optimising
- Private Sector Partnership
- Caribbean Chemicals Limited


Andre Hanief

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Eutrophication

- The increase in nutrients in freshwater or marine systems, which leads to increases in plant growth and often to undesirable changes in ecosystem structure and function.
- Domestic wastewater, industrial effluents, untreated sewage, agricultural & fertilizer runoff

Andre Hanief

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Alison Christie Hazel Oxenford Judith Neumann Martha Prada Issa Oscar Kigongo Interpreter DJ

Task 2

Action plan



Participants: 31

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Alison Christie Hazel Oxenford Judith Neumann Martha Prada Issa Oscar Kigongo Interpreter DJ

WG Sargassum tasks

Specific tasks, as mandated by STAC10 and decisions from COP 12:

- Survey Contracting Parties on their needs related to managing Sargassum influx and how such influx may affect their implementation of obligations under the SPAW Protocol and Cartagena Convention, as well as the LBS Protocol, as appropriate.
- Taking into account the findings of the survey and consultations, as well as any consultations with additional experts as appropriate, update and prioritize the proposed action plan of the Sargassum Working Group in UNLP/DEPI/CAR WG.42/7 for consideration by SPAW STAC11 and COP 13.



Participants: 33

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