



Next steps to strengthen stewardship of the Sargasso Sea

Bermuda Institute for Ocean Science, St George's, Bermuda, March 2019

UN Caribbean Environment Program in the Wider Caribbean region

A zoom on some Cartagena convention/ SPAW protocol actions



Sandrine Pivard, Director, Regional Activity Center for the SPAW Protocol (SPAW-RAC)



Cartagena Convention

Only Legally Binding, Regional Agreement for the Protection and Development of the Marine Environment of the Wider Caribbean Region

The Caribbean Environment Programme (CEP) was formally established by the Governments of the Wider Caribbean Region in 1981 and is now one of the oldest and most successful of the UNEP administered Regional Seas Programmes.



The Contracting Parties shall take all appropriate measures to prevent, reduce and control:



Article 10

Specially protected areas and wildlife



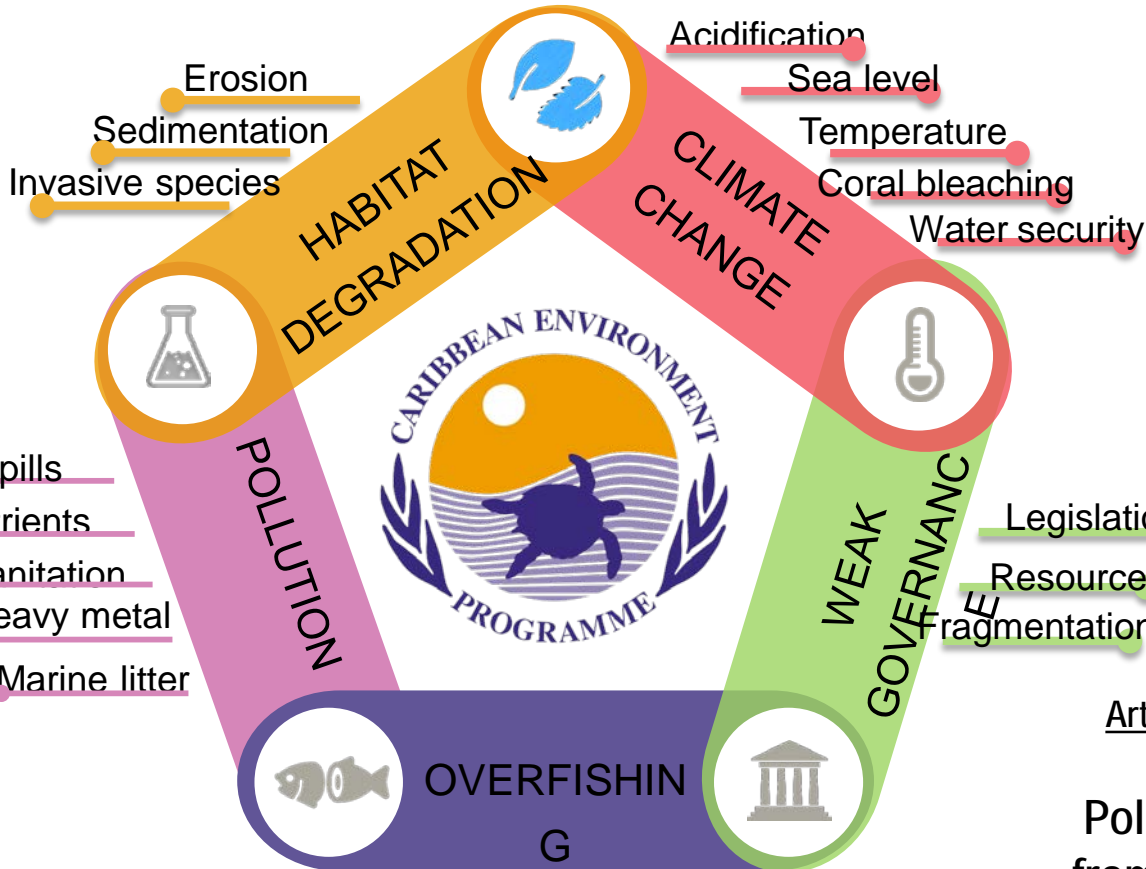
Article 9

Air pollution



Article 8

Pollution from sea bed activities



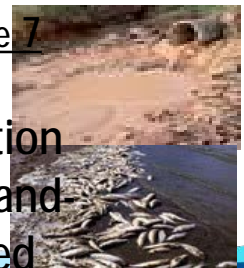
Article 5

Pollutions from ship



Article 6

Pollution from dumping



Article 7

Pollution from land based sources



The Cartagena Convention as a regional agreement addresses several different coastal & marine environmental threats affecting the countries of the Wider Caribbean Region. Adopted in 1983, Entered into force 1986

28 Parties

Pollution from Oil Spills



Adopted in 1983
Entered into force in 1986
25 Parties



**Specially Protected
Areas & Wildlife (SPA)**



Adopted in 1990
Entered into force in 2000
16 Parties



**Land Based Sources and
Activities of Marine
Pollution (LBS)**



Adopted in 1999
Entered into force in 2010
13 Parties



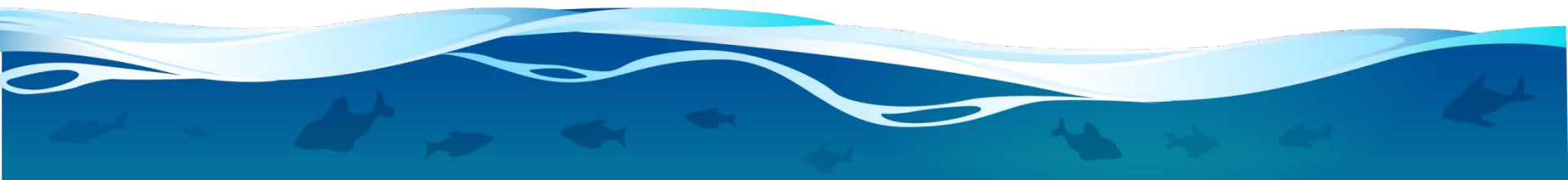
The three Protocols to the Convention identify additional obligations for the protection and development of the Caribbean Sea and are supported by REGIONAL ACTIVITY CENTRES (RAC)



Benefits from the protocols

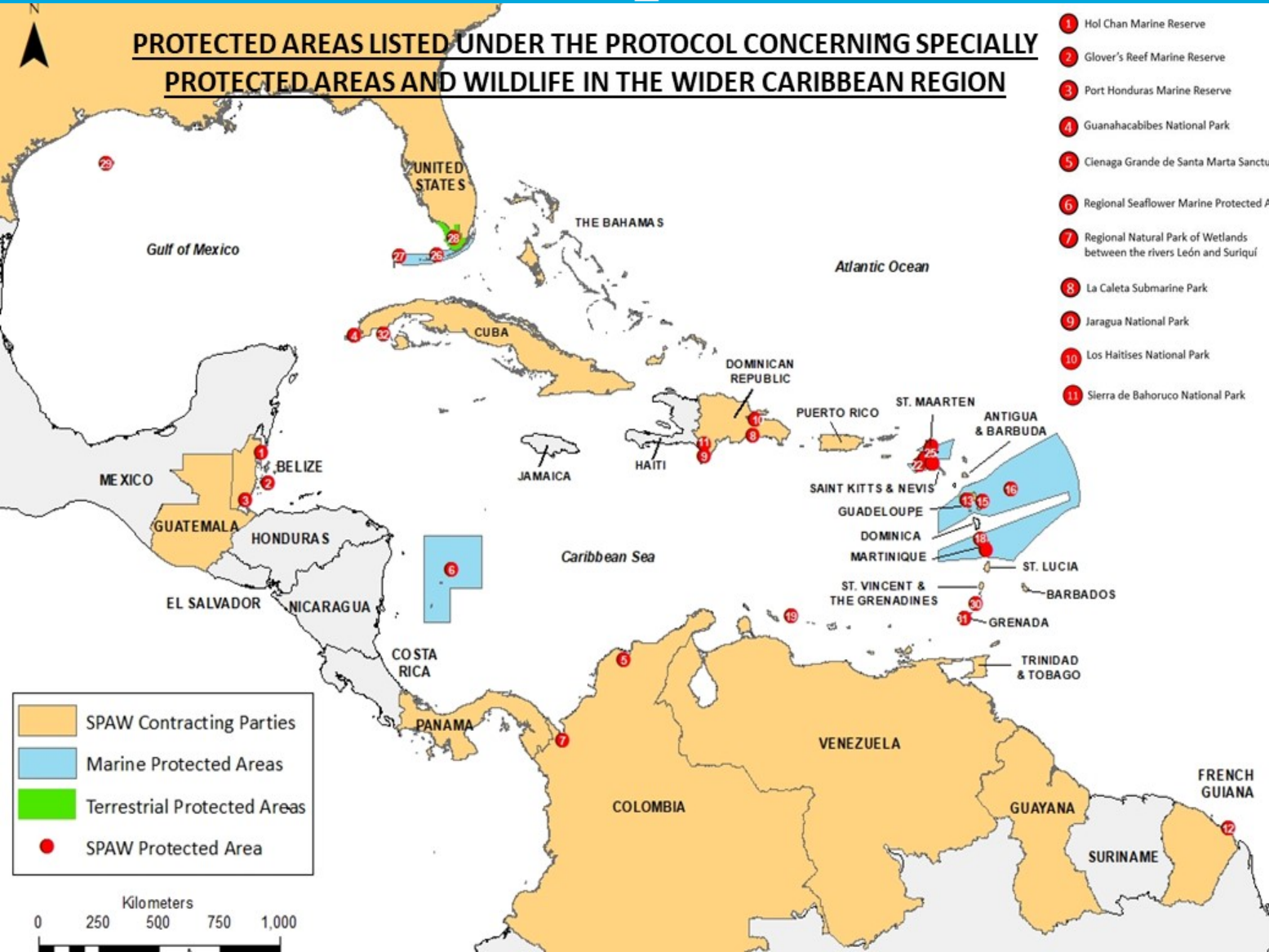


- Facilitate regional cooperation and guide national action to protect and sustainably manage ecosystems and species of national and regional concern
- Emphasis on ecosystem-management approach
- Provide guidance to implement provisions of related and broader agreements
- Emphasis on capacity building, awareness, community participation, scientific information
- Developed by and for governments of the region, thus its relevance to regional issues
- Parties benefit from Subprogrammes, with technical and financial assistance provided to Parties to meet the objectives
- Parties participate to the Scientific and Technical Advisory Committees (STAC) and Conference of Parties (COP)





PROTECTED AREAS LISTED UNDER THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND WILDLIFE IN THE WIDER CARIBBEAN REGION



- 1 Hol Chan Marine Reserve
- 2 Glover's Reef Marine Reserve
- 3 Port Honduras Marine Reserve
- 4 Guanahacabibes National Park
- 5 Ciénaga Grande de Santa Marta Sanctuary
- 6 Regional Seaflower Marine Protected Areas
- 7 Regional Natural Park of Wetlands between the rivers León and Suriquí
- 8 La Caleta Submarine Park
- 9 Jaragua National Park
- 10 Los Haitises National Park
- 11 Sierra de Bahoruco National Park
- 12 Grande Connétable Island Natural Reserve (French Guiana)
- 13 Guadeloupe National Park
- 14 St Martin Lagoon Ponds National Park
- 15 Petite-Terre National Reserve (Guadeloupe)
- 16 Agoa Sanctuary
- 17 The Saline Pond Reserve (Martinique)
- 18 Reserve du Versant Nord-Ouest de la Montagne Pelée
- 19 Bonaire National Marine Park
- 20 St Eustatius National Park
- 21 The Quill/Boven National Park
- 22 Saba Bank National Marine Park
- 23 Saba National Marine Park
- 24 St Eustatius National Marine Park
- 25 Man O War Shoal Marine Park (Sint Maarten)
- 26 Florida Keys National Marine Sanctuary
- 27 Dry Tortugas National Park
- 28 Everglades National Park
- 29 Flower Garden Banks National Marine Sanctuary in Texas
- 30 Tobago Cays Marine Park
- 31 Molinière-Beauséjour Reserve
- 32 Cayos de San Felipe National Park



Establishment and strengthening of MPAs

Ecosystem based management, spatial marine planning



Development of guidelines for the management of MPAs and species

Assessment and completion of the existing listings, develop cooperation between SPAW sites, questions regarding the nomination process



REGIONAL COOPERATION

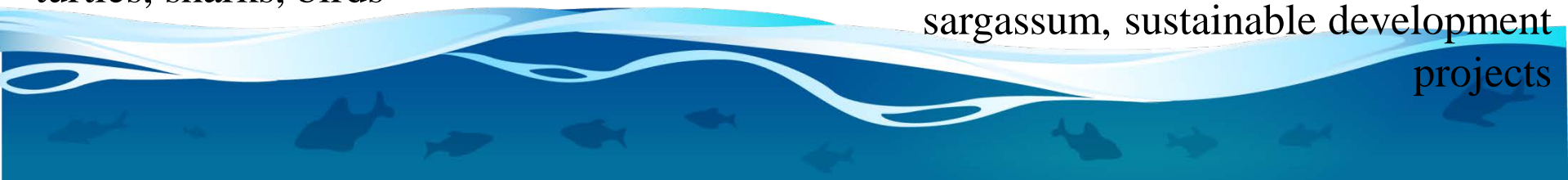
Preservation of threatened and endangered species

Mainly marine mammals, turtles, sharks, birds



Preservation and sustainable use of coastal and marine ecosystems

Coral reefs (GCRMN, ICRI), mangroves, seagrass, invasive species control, sargassum, sustainable development projects





STRENGTHENING OF PROTECTED AREAS

- Contribution to the Ecosystem Based Management project- pilot site in Dominican republic
- ECMMAN projects :Coordination of the Small Grants component of the Climate Resilient Eastern Caribbean Marine Managed Areas Network, german-funded, TNC- led
- Transatlantic North-South Cooperation Project on Marine Protected Areas : twinning projects on MPAs network and Marine Mammals
- Cooperation with OSPAR : enhance management capacity among MPAs communities

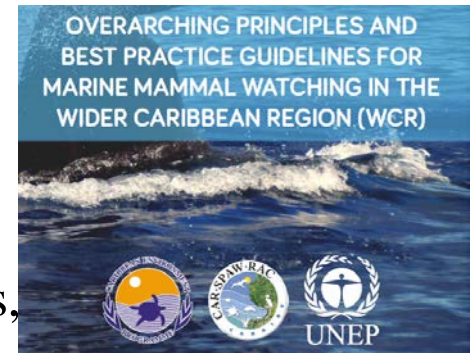




CONSERVATION OF THREATENED AND ENDANGERED SPECIES- Marine mammals -

Action Plan for the conservation of marine mammals (MMAP)
in the Wider Caribbean Region :

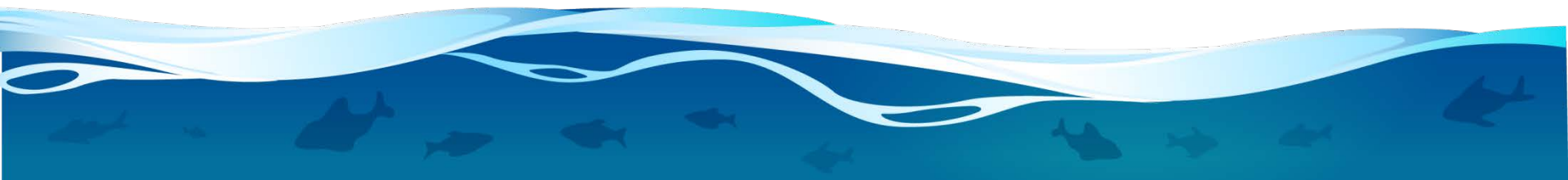
- disseminating the principles and guidelines for WW activities,
- education : Mon Ecole Ma Baleine (“my school my whale”)
- CARI’MAM project : 3 years EU funded project with the French Biodiversity agency



Sea turtles – work with WIDECAST network

Sharks – contribution to the CMS MOU on sharks

Invasive Alien Species – lionfish





The BEST initiative: Biodiversity and Ecosystem Services in EU overseas
formally not part of the SPAW program

- **BEST III** (3 ORs+12 OCTs in the Caribbean) : ended in 2017
 - Identification of Key Biodiversity Areas
 - Definition of a Regional Investment Strategy



- **BEST 2.0** (12 OCTs) :

Almost 20 projects implemented in the WCR including 7 SPAW territories and key themes : invasive species management, marine turtle conservation, coral reef restoration, lionfish control, protection of endemic species, reforestation/restoration of key areas for biodiversity, establishment of MPAs...



BEST

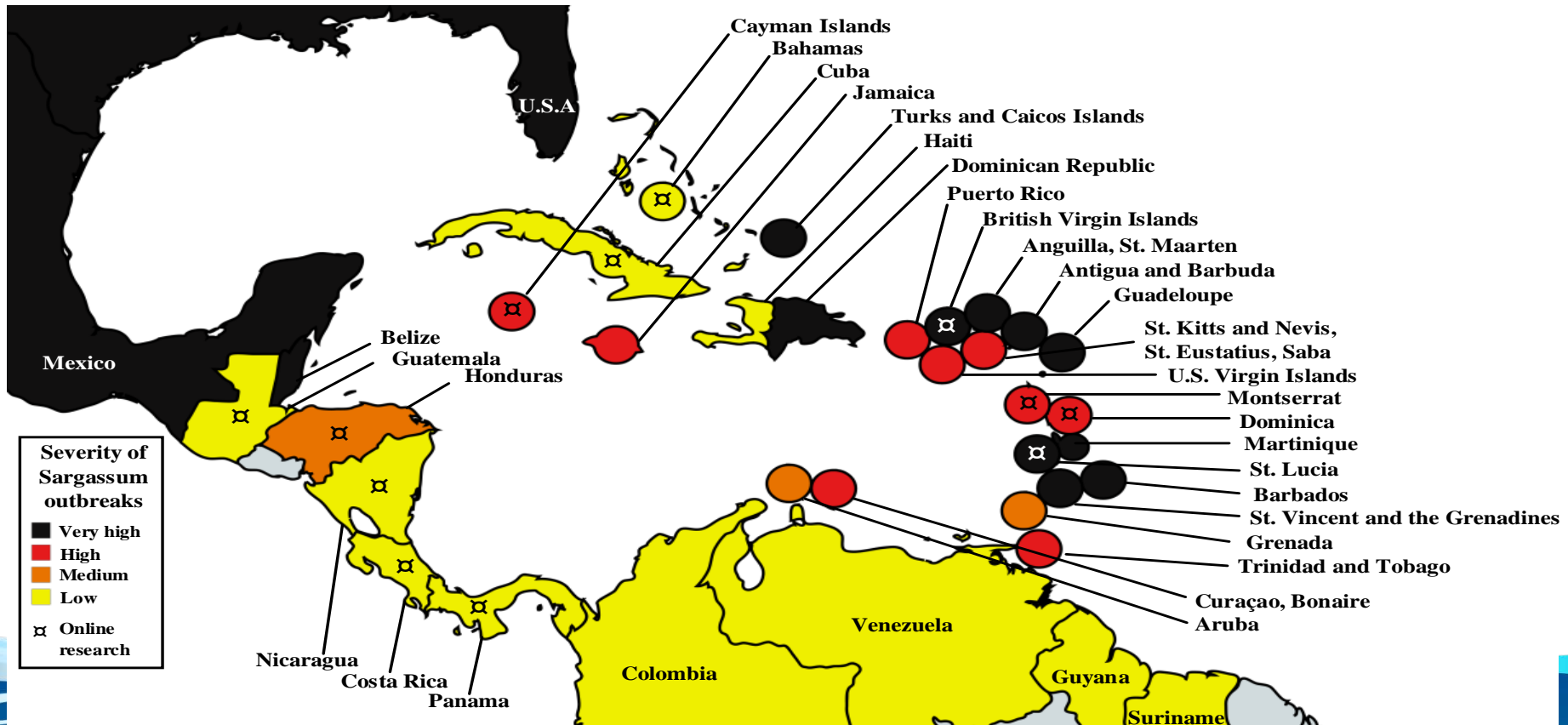
VOLUNTARY SCHEME
FOR BIODIVERSITY AND
ECOSYSTEM SERVICES
IN TERRITORIES OF
EUROPEAN OVERSEAS





- Developpement of informative documents

- « Sargassum White Paper - Sargassum outbreak in the Caribbean: Challenges, opportunities and regional situation » - presented to last STAC and available online



Data: survey responses of National Focal Points from 28 territories of the Wider Caribbean Region, as well as satellite records and online websites.



-coordinated by the Land-Based Sources of Marine Pollution Protocol (LBS):

- Recent State of Pollution Report for the Caribbean Seas identified Sargassum as a major issue of concern requiring a coordinated approach
- Marine Litter and Plastics are often found entangled in Sargassum making it an even greater problem

⇒ development of a Regional Nutrients Reduction Strategy by the Secretariat along with a Regional Habitat Restoration Strategy to assist in an integrated response to the issue and offer some lessons learned and best practices (supported by UNDP GEF CLME+ Project)



- Inventory of on-going initiatives (forecasting, management, valorisation...)

⇒ on France initiative, creation of an Ad Hoc Working Group on Sargassum to establish coordination and collaboration with relevant regional and global initiatives ? (TBC during the next COP)



- Strengthen cooperation with international bodies (ACS, GCFI, UWI, Abidjan Convention, Sargasso Sea Commission, OECS, OSPAR...) and other UN organizations (UNODC, UNDP, UNESCO, other UNEP programmes...)
- Develop projects with large network : eg in line with the MMAP through the implementation of the CARI'MAM Project and transatlantic project, or through the implementation of the CARIB-Coast Project in support of the conservation and management of mangroves and coral reefs to address coastal resilience;
- Create/ reinforce ad hoc working groups to address priorities such as
 - Support of listed protected areas, with particular attention to the ecological connectivity among sites, and strengthening of networking and capacities
 - Specific species : parrotfish and other herbivores associated with coral reefs, sea grass beds and mangroves, some sharks and rays species, also consider enhanced collaboration for regional management strategies for some listed species under the Annexes of the Protocol
 - Exemption process and reports
 - Sargassum influx



Thank you, Gracias, Merci

UN Environment CAR/CEP
14-20 Port Royal Street
Kingston, JAMAICA

SPAW/RAC
DEAL Guadeloupe
Site de Saint-Phy
sandrine.pivard@developpement-durable.gouv.fr

<http://www.car-spaw-rac.org>

The screenshot shows the SPAW-RAC website interface. The main content area includes a welcome message, news updates, and a list of meetings and events in 2019. A sidebar on the left contains navigation links like Home, News, and Newsletter. Below the website screenshot is the cover of Newsletter N°22 - August 2018, titled 'Specially Protected Areas and Wildlife Protocol And Programme'. The newsletter cover features a 'Contents' table of contents.

Commonly used Acronyms	
BEST: Voluntary scheme for Biodiversity and Ecosystem Services in Territories of European overseas	
CaMPAM: Caribbean Marine Protected Area Management Network and Forum	
CEP: Caribbean Environment Programme	
GCFI: Gulf Caribbean Fisheries	

News of the month	
Eco-Diving Certification Programme Green Fins comes to the Caribbean...	1
Introducing Ms. Ileana Catalina Lopez...	4
Sargassum News...	4

Projects	
BEST project is over and has achieved great results!	2
A BEST 2.0 project in Turks and Caicos Islands (TCI)	2
A successful CCM/BIOS collaboration	2
Training of 13 participants to the third GCRMN Caribbean - Capacity Building Workshop...	2

Briefs	
Introducing Ms. Ileana Catalina Lopez...	4
Sargassum News...	4

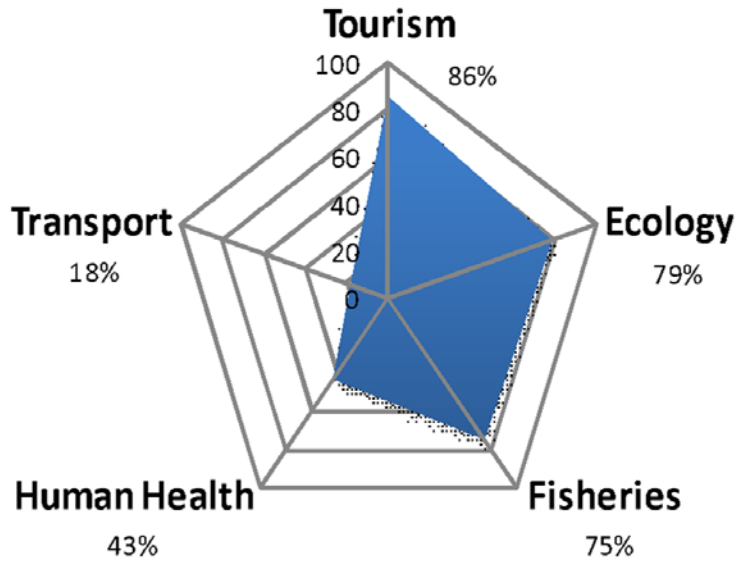
SPAW PAs / CaMPAM News	
13th edition of the Training of trainers (ToT) Programme on Marine Protected Areas (MPAs) Management...	4
CaMPAM Expert Group...	4
CaMPAM website migration/database update...	5
Other happenings...	5

Forum address: <https://spawrac.teamwork.com> - Suscribe : sargassum.forum@gmail.com

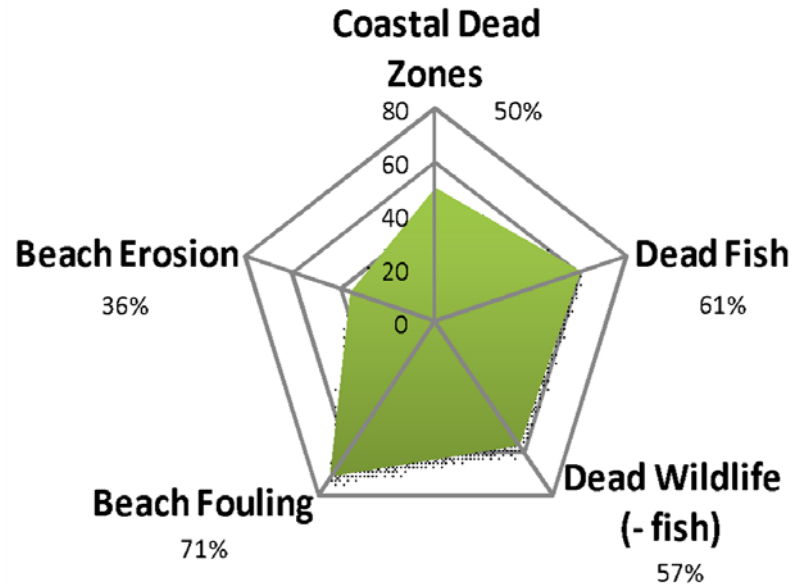




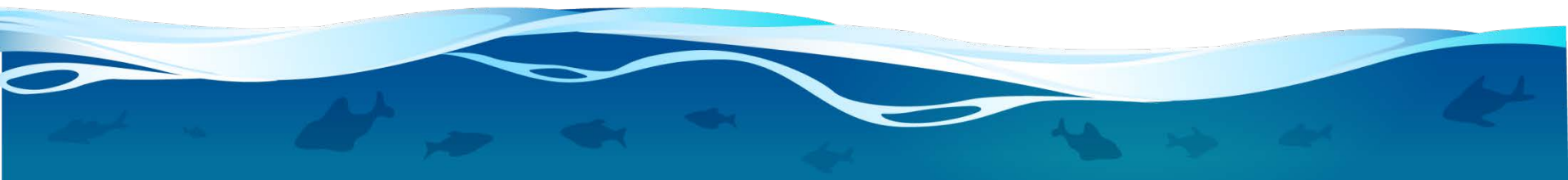
The *Sargassum* Regional Survey



Economic Sectors

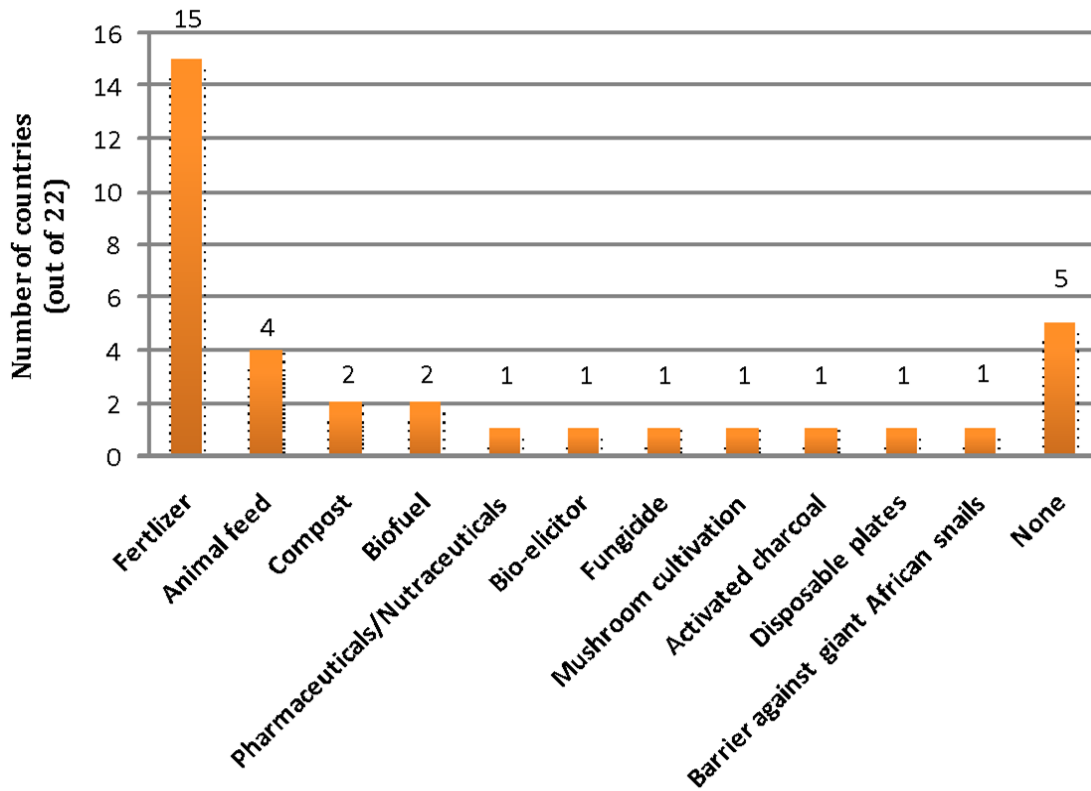


Ecological Damage





Utilization of *Sargassum*

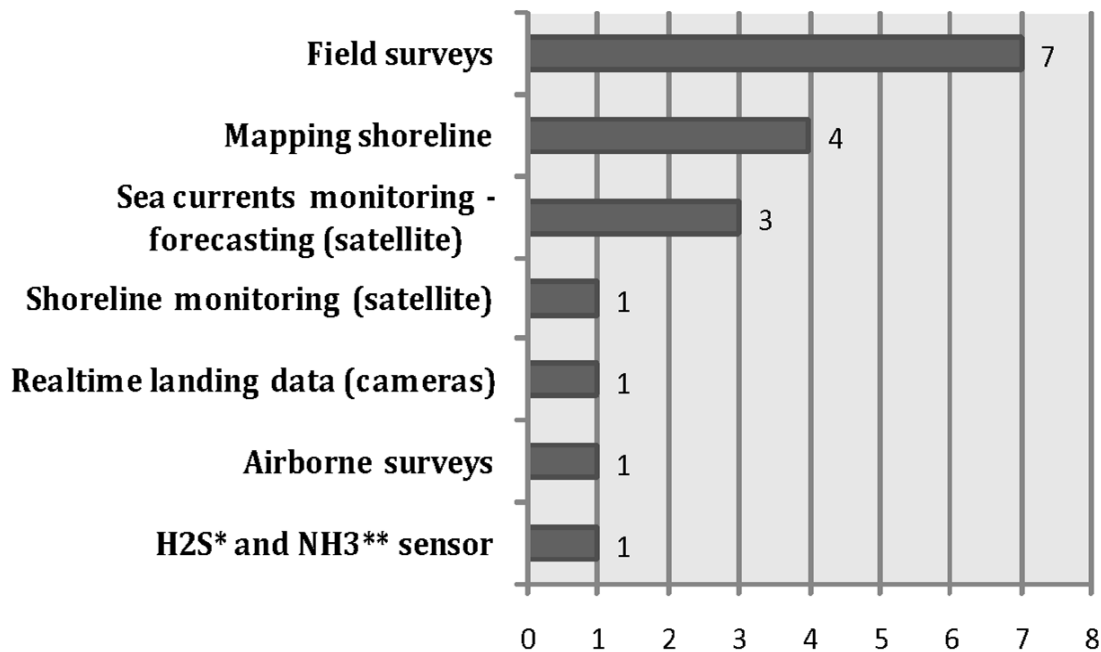


Data: survey responses from 22 territories that reported having a significant *Sargassum* issue.





Sargassum Tracking Procedures



*: Hydrogen sulphide

** : Anhydrous ammonia

Data: survey responses from 19 territories that reported having significant *Sargassum* issue and provided details about their tracking procedures.



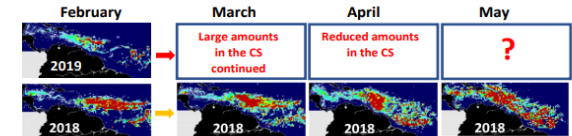
Events related to Sargassum Management since 2015

Date & Location

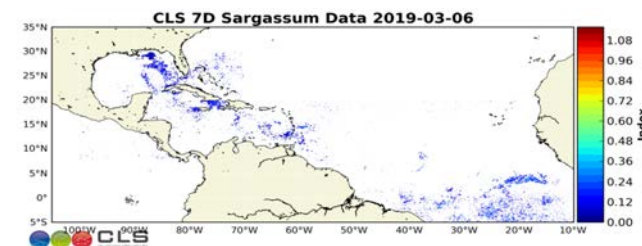
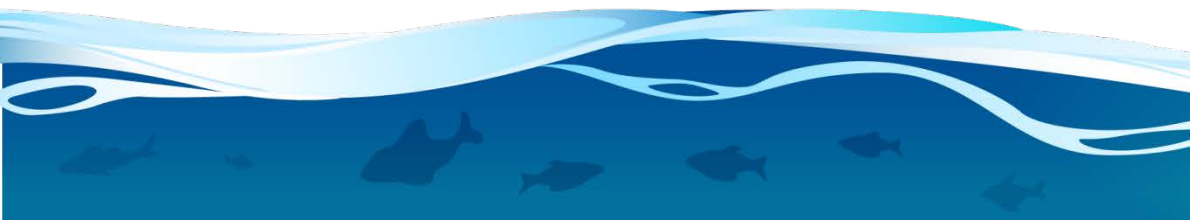
Roundtable of MPA managers of French Antilles and Guiana	Saint-Martin, June 2015
Sargassum Symposium, CERMES (UWI)	Barbados, August 2015
Latin American and Caribbean Large Marine Ecosystems Symposium	Cancun, Mexico, September 2015
68 th GCFI annual meeting	Panama, November 2015
First symposium of the Caribbean Sea Commission	Trinidad, November 2015
Regional Sargassum Conference (BVI Government & Virgin Unite)	British Virgin Islands, March 2016
69 th GCFI annual meeting	November 2016
UN Oceans Conference	June 2017
70 th GCFI annual meeting	6-10 November 2017
A&M Galveston Texas University French-American	Galveston Texas
IOCARIBE Workshop Sargassum and Oil Spills Monitoring Pilot Project for the Caribbean Sea & Adjacent Regions	2-4 May 2018, Mexico
Conférence de Coopération Régionale Antilles-Guyane	October 2018
71 st GCFI Annual Meeting	November 2018
Second Sargassum Symposium – FAO & CERMES (UWI)	November 2018

In 2018, the Caribbean Sea (CS) has experienced a record-high and prolonged *Sargassum* bloom. The maps below show *Sargassum* abundance, with warm colors representing high abundance. In Feb 2019, similar amounts as in Feb 2018 appeared in the eastern CS, but amounts in the Central West Atlantic (CWA) were lower. Meanwhile, large amounts of *Sargassum* were found in the western CS from Belize to the Yucatan channel, and then in the eastern Gulf of Mexico through the Loop Current. In Mar 2019, this trend is likely to continue. However, in Apr 2019 the amount of *Sargassum* transported from the CWA to the CS may be lower than in Apr 2018. According to the conditions in the eastern Atlantic, in later months of 2019 the CS may still experience moderate to large amounts of *Sargassum*.

Wang, M., and C. Hu (2017), Predicting *Sargassum* blooms in the Caribbean Sea from MODIS observations, *Geophys. Res. Lett.*, 44, 3265–3273, doi:10.1002/2017GL072932.



- Forecasting and Management
 - IOCARIBE (UNESCO) Workshop Sargassum and Oil Spills Monitoring Pilot Project for the Caribbean Sea & Adjacent Regions (2018-2021)
 - Early Warning System for Sargassum. Report available on Teamworks Online Platform
 - NOAA & AOML NOAA: Atlantic OceanWatch and Caribbean/Gulf of Mexico CoastWatch NOAA
 - University of South Florida and Nasa Outlook Bulletin (See top right)
 - CLS and NovaBlue Environment (NBE) Detection and Monitoring system with the European Space Agency (See bottom right)
 - UNACAR (University of Carmen, México) Sargassum detection in the Mexican Caribbean and Bank of Campeche



Low Resolution Composite Weekly map of the CLS NFAI Sargassum index over the Atlantic combining MODIS-Aqua and S3-GLC optical sensors.

The red shows high concentration of Sargassum. The blue shows low concentrations. The white shows waters without any Sargassum detection (due to an absence of Sargassum, size relative to the size of the sensor, or the sensor's field of view).



On-going initiatives

- Valorisation
- Sargassum Valorisation Project (Began October 2018) by the Borea Laboratory (CNRS/MNHN/SU/IRD/University of Caen Normandie/University of the Antilles)
- Research on utilization as an organic fertilizer
- Institut Technique Tropical
- Utilization of Sargassum for agricultural purposes
- Private Sector:
 - AlgaeNova, Algas Organics, Agrobioquim, AgroFora, Albioma, Biogen, Centre for Process Innovation Ltd, ELASTEC, Fulcrum Maritime Systems, Ocean Harvest Technology, SITA ESPERANCE (SUEZ), The Ocean Cleanup, Themba Biofuels Ltd

