Wider Caribbean Region
Maritime Environment

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Wider Caribbean Region
Maritime Environment

5.3 million square kilometers
28 coastal States & 10 Territories

Population:
- 233 mil in WCR (excluding U.S.)
- 166 mil live in the Caribbean

Travel & Tourism (2015):
- 28.7 mil International trips
- $51.9 billion to economies
- 2,231,500 jobs
- 13.0 % of employment

15 Developing States with:
- Offshore Oil & Gas Interests
- Major shipping routes
- 800,000 bbls oil/ day thru Panama Canal
- 13,000+ TEU Post-Panamax Containerships
- 37% of world’s cruise ships
- Up to 6,000 passengers per ship
Routes

- Straits of Florida
- Yucatan Channel
- Windward Passage
- Mona Passage
- Panama Canal
- Galleon's passage
Global Distribution of Ships that Passed through the Panama Canal (Jan 1, 2010 to May 14, 2010)

(~5800 transits through the Panama Canal)
## Transits in 2016 (LLI):

<table>
<thead>
<tr>
<th>Ship type</th>
<th># transits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry cargo</td>
<td>7,860</td>
</tr>
<tr>
<td>Tankers</td>
<td>2,950</td>
</tr>
<tr>
<td>Passenger ships</td>
<td>204</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11,104</strong></td>
</tr>
</tbody>
</table>

*NB. Figures are preliminary and should be used as indication only*
Caribbean Marine Invaders (N=116) by Date of First Detection

- [1700, 1890): 10
- [1890, 1910): 1
- [1910, 1940): 5
- [1940, 1970): 20
- [2000, 2030): 30

Smithsonian Environmental Research Center

(NEMESIS and Haydar et al. 2012)
Caribbean Marine Invaders by Taxonomic Group (N=116)

(NEMESIS, Haydar et al. 2012)
116 recorded Marine Invaders by Greater Caribbean Bioregions
Caribbean Marine Invaders (N=116) by Vector

- **BW and/or**
  - **HF and/or**
  - **DB and/or**
  - **Cargo**

- **Shipping**
  - **Multiple**
  - **Fisheries**
  - **Pet**

(NEMESIS and Haydar et al. 2012)
Trade by Ships

- Global Scale
- Ships carry >90% world trade
- >100,000 ships in world fleet
- >10.0 billion tonnes cargo / year
- Predicted to increase substantially in 10-15 years
- Underpins global economic development
Shifting Trade Patterns & Routes

- NW Passage
- Northern Sea Route
- Panama
- Suez
• The Caribbean is globally connected by shipping.
• Both Ballast Water and Hull Fouling are extensive and potent vectors of invasive species transport to/from the Caribbean.
• Shipping patterns shift according to global supply and demand as well changing shipping opportunities.
• Onboard Ballast Water Treatment is likely the most promising solution to a global challenge of marine invasive species.
Increasing BWMS Prevalence On Arrivals To US Ports

- Key findings from our study:
  - Filtration + UV systems were most commonly reported.
  - The volume of BW discharge treated using BWMSs increased during this period.
  - Highest total number of BWMSs on bulker and tanker vessels.
  - Highest proportion of BWMSs on passenger vessels.

Figure credit: Mark Minton
The Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (Cartagena Convention)

Antigua and Barbuda, Bahamas, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, France, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Kingdom of the Netherlands, Nicaragua, Panama, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, United Kingdom, United States of America and Venezuela

(23 of 52 U.N. Recognized Small Island Developing States)

Legal structure: Contracting Parties must adopt measures aimed at preventing, reducing & controlling:
- pollution from ships
- pollution caused by dumping
- pollution from sea-bed activities
- airborne pollution
- pollution from land-based sources & activities
Structure of the SPAW Protocol

General Articles
- General obligations, Mutual assistance, Public awareness, Scientific Committee

Protected Areas
- Establishment and listing, Protection measures, Planning and management

Other
- Common guidelines and criteria, Exemptions, Environmental impact assessment

Protected Species
- National measures, Cooperative measures, Alien species
  - Annexes
    - Ann. I: Protected flora
    - Ann. II: Protected fauna
    - Ann. III: Fauna & flora regulated use
### SPAW and BWM Convention

#### 32 MPAs listed under the SPAW Protocol

<table>
<thead>
<tr>
<th>Country</th>
<th>MPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belize</td>
<td>Glover’s reef Marine Reserve</td>
</tr>
<tr>
<td></td>
<td>Hol Chan Marine Reserve</td>
</tr>
<tr>
<td></td>
<td>Port Honduras Marine Reserve</td>
</tr>
<tr>
<td>Colombia</td>
<td>Sanctuary Cienaga Grande de Santa Marta</td>
</tr>
<tr>
<td></td>
<td>Regional Seaflower Marine Protected Area</td>
</tr>
<tr>
<td></td>
<td>Regional Natural Park of Wetlands</td>
</tr>
<tr>
<td>Cuba</td>
<td>Guanahacabibes National Park</td>
</tr>
<tr>
<td></td>
<td>Cayos de San Felipe National Park</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>National Park Jaragua</td>
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<td></td>
<td>National Park la Caleta</td>
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<tr>
<td></td>
<td>National Park Sierra de Bahoruco</td>
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<tr>
<td></td>
<td>National Park Haitises</td>
</tr>
<tr>
<td>Grenada</td>
<td>Molinière-Beauséjour Marine Protected Area</td>
</tr>
<tr>
<td>Saint Vincent and the Grenadines</td>
<td>Tobago Cay Marine Park</td>
</tr>
<tr>
<td>France</td>
<td>Grand Connétable Island Natural Reserve</td>
</tr>
<tr>
<td></td>
<td>National Park of Guadeloupe</td>
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<tr>
<td></td>
<td>St Martin Lagoon Pond</td>
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<tr>
<td></td>
<td>St Martin National Reserve</td>
</tr>
<tr>
<td></td>
<td>Agoa Sanctuary</td>
</tr>
<tr>
<td></td>
<td>Petite-Terre National Reserve</td>
</tr>
<tr>
<td></td>
<td>Reserve Etang des Salines</td>
</tr>
<tr>
<td></td>
<td>Reserve Versants Nord de la Montagne Pelée</td>
</tr>
<tr>
<td>Kingdom of the Netherlands</td>
<td>Saba National Marine Park</td>
</tr>
<tr>
<td></td>
<td>St Eustatius National Marine Park</td>
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<tr>
<td></td>
<td>Man O War Shoal Marine Park</td>
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<tr>
<td></td>
<td>Bonaire National Marine Park</td>
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<tr>
<td></td>
<td>The Quill and Boven National Park</td>
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<tr>
<td></td>
<td>Saba Bank National Park</td>
</tr>
<tr>
<td>United States of America</td>
<td>Florida Key National Marine Sanctuary</td>
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<tr>
<td></td>
<td>Dry Tortugas National Park</td>
</tr>
<tr>
<td></td>
<td>Everglades National Park</td>
</tr>
<tr>
<td></td>
<td>Flower Garden Banks National Marine Sanctuary</td>
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</tbody>
</table>
Protected Areas listed under the Protocol Concerning Specially Protected Areas and Wildlife in the WCR
Main SPAW Provisions

**Linkages - management of ballast water**

- Information, public awareness & education
- Scientific, technical & management research
- Scientific, Technical and Advisory Committee (STAC)
- Environmental impact assessment
Considerations (recalling 2015-2016 workplan)

• Re-engage dialogue on Sustainable Tourism
  - private tourism sector within the region
  - major coastal and marine tourism companies in the conservation of marine resources
  - large cruise ships companies and all-inclusive resorts
8 Sept 2017 Entered Into Force
65 Contracting Governments
73.92% of world's merchant fleet tonnage.

Ratification in WCR:
Antigua & Barbuda, Bahamas, Barbados, France, Honduras, Jamaica, Mexico, Netherlands, Panama, Saint Kitts & Nevis, Saint Lucia, Trinidad & Tobago

June 2017: GloBallast Program ended
RAC/REMPEITC-Caribe involved BWM since 2006

June 2006, UNEP determined that:
...a Regional Action Plan with stakeholder participation is needed to link together individual national and/or sub-regional plans to regional and global plans, in order to maximize synergies.

2010: Regional Task Force on Control and Management of Ships' Ballast Water and Sediments in the WCR and El Salvador (RTF-WCR)

- Created as a working group within Regional Strategy to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens in Ships’ Ballast Water and Sediments,
- decision of 14th Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme & 11th Meeting of the Contracting Parties to the Cartagena Convention

RTF-WCR: Antigua and Barbuda, The Bahamas, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, France, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, the Kingdom of the Netherlands,
IMO Regional BWM Workshop: Third Regional Task Force Meeting on the Ratification and Implementation of the IMO Convention on Ballast
Panama City, Panama
June 5-9, 2017

Antigua and Barbuda, Belize, Colombia, Costa Rica, Cuba, Dominican Republic, El Salvador, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Curacao, BES Islands, Panama, Malaysia and the United States of America.
RTF - Wider Caribbean Region (WCR) Areas
Rules of Procedures:
Reviewed, revised and incorporated into SAP

Hull Fouling:
Consideration should be given towards incorporating hull fouling into at the next RTF-WCR meeting.

Election of Officers:
Colombia, as Chair
Jamaica, as First Vice-Chair
Panama, as Second Vice-Chair
Strategic Action Plan (SAP):
Reviewed, amended, and updated

Incorporation:
SAP should be presented for endorsement by the Contracting Parties of the Cartagena Convention at:

- RAC/REMPEITC-Caribe Steering Committee

SAP Strategic Priorities

1. Commit to the implementation of international instruments developed to minimize the introduction

2. Develop an information exchange network

3. Maintain and enhance capacity-building activities and initiatives

4. Develop knowledge on the environmental condition of the Seas of the WCR and invasive alien species introduced by ships

5. Use risk assessment as a useful tool to assist in BWM decision-making and in compliance, monitoring and enforcement procedures.

6. Decide upon a harmonized regional regime and ensure sub-regional and national strategies are in line with these.
7. Regional cooperation/consideration of other regional seas strategies

8. Instruct the maritime community for compliance and encourage and support general public awareness initiatives


10. Keep the Strategy and Action Plan under review and assess their implementation

11. Identify source, adequate resources to implement activities

7. Seek long-term personnel support for RAC/REMPEITC-Caribe
1. Accede to the BWM Convention
2. Establishing a web-based WCR clearinghouse mechanism
3. Adopt guidelines for exchange and sediment management
4. Enhance expertise, facilitate knowledge transfer & capacity building
5. Establish a survey, biological monitoring and risk assessment system
6. Establish a Ballast Water and Sediments Scientific Committee
7. Establish a Compliance Monitoring and Enforcement system
8. Enhance public awareness on ships’ ballast water and invasive alien species issues and instruct the maritime community for compliance
9. Incorporate the Strategy and Action Plan evaluation within the Cartagena Convention reporting system and procedure
Clearinghouse Mechanism:

- Caribbean Marine Invasive Species Clearinghouse Mechanism (CMISC) framework presented

- Delegates supported the need to assign sub-workgroups & responsibilities to the Work Plan

- Delegates volunteered for workgroups
Caribbean Maritime Invasive Species Clearinghouse Mechanism (CMISC)

- Invasive Species Database
- Port Biological Monitoring Portal
- Scientific Committee Portal
- Open - Compliance Monitoring & Enforcement
- Closed - Compliance Monitoring & Enforcement
- Outreach Portal

Connected at RAC/REMPEITC-Caribe Website
Clearinghouse Mechanism
Sub-working Groups

- **Invasive Species Portal (ISP):**
  - Trinidad and Tobago.

- **Port Biological Monitoring (PBM) Portal:**
  - Jamaica, Trinidad and Tobago, Dominican Republic.

- **BW & Sediments Scientific Committee (SC):**
  - Colombia, Jamaica, Trinidad and Tobago.

- **Open-Ended Compliance Monitoring & Enforcement (CME):**
  - Dominican Republic.

- **Closed-Ended Compliance Monitoring & Enforcement (CME) Portal:**
  - Colombia and Jamaica.

- **Outreach Portal:**
  - Belize.

In Collaboration with National Universities, Institutions etc

Structure in place within 1 year
1. WCR Invasive Species Database Portal (ISP)

- Liaison with Smithsonian Environmental Research Center
- Adapt framework of National Exotic Marine and Estuarine Species Information System (NEMESIS) for the WCR.
- Provide contact information of:
  - national, regional and international institutions charged with collecting invasive species data;
  - Provide direction, advice and encouragement on how to enter data for WCR into a single database.

Sub-Workgroup Leader (Regional Focal Point):
- Panama
- Trinidad and Tobago
2. Port Biological Monitoring (PBM) Portal

To foster collaborative efforts & connect institutions involved with Port Biological Monitoring

To include:

- data & reports on WCR Port Biological Assessments (PBBAs) Conducted in the WCR;
- procedures & technical assistance related material for conducting
- links to National (per country) and regional Institutions conducting PBM and PBBAs;
- published works directly related to PBBAs and PBM;
- lessons learned/best practices/training material for conducting PBBAs/PBM;

Regional Focal Point:

- Jamaica
- T&T
- Dominican Republic
3. Ballast Water and Sediments
Scientific Committee

Establish a portal that will link Scientific Committee Members

- online forum to facilitate establishment of an online Scientific Committee Correspondence Group;
- a chat group/message system to enhance the exchange of communication;
- list of committee members and their contact information;
- links to other sites and institutions providing scientific information related to BWM;
- links to published work related to BWM
- information on scientific seminars/workshops

Sub-working Group (Focal Point):

- Colombia
- Jamaica
- T&T (UWI)
4a. **Open-Ended** Compliance Monitoring and Enforcement Portal

- Guidelines for implementing the BWM Convention in the WCR;
- Material for Commercial and Maritime Industry personnel;
- Links to BWM & environmentally safe Hull Cleaning procedures;
- Information on seminars/workshops related BWM, sediment management & hull fouling procedures;
- Information on mariner training/guidance material related to implementing BWM;
- Links to commercially available BWM Programs;
- Ballast & Sediment Treatment Technologies: Third party testing companies; Approved Ballast Water Treatment technologies; Ballast Water and Sediment Reception Facilities; and Industry technical guidance and best practice material.

**Regional Focal Point:**

Dominican Republic
4b. **Closed-end Compliance Monitoring and Enforcement Portal**

- Means to receive information regarding ships’ BWM practices at a central location & transmit to the Port State’s BWM regulatory authority;
- Means to ensure tracking of violations throughout the region;
- Mutual exchange of information for regional ratification/implementation Convention by RTF-WCR members.

- Guidance/experiences/best practices/lessons learned for:
  - National Accession & Implementation of the Convention
  - Port State in examining ships’ official log book or other records to ascertain compliance
  - Obtaining/testing BW & sediment samples
  - Determining compliance with the BWM Convention and the Voluntary Guidelines
  - Enforcement
  - Development and designation of national ballast water exchange zones
4b. **Closed-end Compliance Monitoring and Enforcement Portal**

- Legal provisions put in place by any WCR State for enforcement
- **Documents/assessments completed** by WCR countries under GloBallast Project
- **Chat Room** for the exchange of information related to implementation, enforcement communication between RTF-WCR Members;
- Means for tracking violations and identifying commonly found issues
- **Regional Focal Point:**
  - Colombia
  - Jamaica
5. Outreach Portal

- Provide information to the **general public** of the WCR related raising awareness of:
  - Risks associated with introducing non-indigenous marine species
  - Preventing transfer/spread of AIS and HAOPs from all vectors

- Translations

- Links to IMO GloBallast Public Awareness Material & other material for downloading and dissemination;

- Links to information on public seminars, training events, workshop, outreach events, articles

- Links to WCR news related to awareness/prevention activities

- **Regional Focal Point:**
  - Belize
1. Website Development Technical Assistance?

2. Assist REMPEITC in developing MEPC paper on WCR Guidelines and circulate by Dec 2017 for submittal to MEPC by Jan 2018 Regional Focal Point
Guidelines for Ballast Water Exchange & Sediment Management in the Wider Caribbean Region

Change: Harmonized Voluntary Arrangements

Into

Guidelines for Ballast Water Exchange and Sediment Management in the Wider Caribbean Region areas

To be prepared & distributed as an IMO Circular for MEPC 72

Draft to be circulated prior to submission to IMO MEPC 72.

RAC/REMPEITC-Caribe to submit as an IMO Circular for the information and awareness of all Parties.
Upon entering WCR from Atlantic/Pacific Ocean:

Â Undertake exchange before entering Caribbean or at least 200 nautical miles from land and 200 meters in depth

Â Where not possible, at least 50 NM miles from the nearest land and in waters of at least 200 m depth,

Â unless other areas are designated by port States

Â requires assessment & consultation with adjacent & interested States
Areas in the WCR meeting the requirements of Regulation B-4.1.2 of the Ballast Water Management Convention (at least 50 nautical miles from land & at least 200 meters depth).
WCR Guidelines

For ships not meeting regulation D-2 of the Convention

Operating within WCR & engaged in traffic between WCR ports:

- Undertake BWE as far from land as possible,
  - At least 50 NM from nearest land & 200 m depth,
  - In areas designated by the Port States
- Take into account protected areas
- Ships moving between IUCN biographic regions, that have taken on ballast water within the WCR, are encouraged to conduct BWE within the same IUCN biographic region where BW taken on, prior to entering & discharging BW in another biographic region
Protected Areas listed under the Protocol Concerning Specially Protected Areas and Wildlife in the WCR
International Union for Conservation of Nature (IUCN)
Bioregions of the WCR
If BW taken on while in WCR & intending to discharge outside:  
**Exchange:**
- at least 200 nautical miles from land  
- in water at least 200 meters deep.  
- If not possible: exchange outside in waters at least 50 NM from & 200 meters depth.
Tanks to be exchanged:

Exchange of all tanks is encouraged for all vessels that have the potential/capacity to load cargo in the WCR, as changes in routes and planned activities may occur.
Sediment Management:

- Release of sediments during cleaning of ballast tanks should not take place in WCR waters.
- Sediments collected during cleaning or repairing operations of ballast tanks should be delivered in sediment reception facilities in ports/terminals, or discharged outside WCR in locations beyond 200 NM & 200 m depth.
- For vessels that have spent significant time outside the WCR: ballast water sediment should preferably be discharged & tanks cleaned before entering the WCR.
Exemptions:
• May be granted to a ship on a voyage between specified ports or locations, or ships operating exclusively between specified ports within the Wider Caribbean area.
• Based on the Guidelines for risk assessment under regulation A-4

Safety and Stability:
• If the safety of the ship is in any way jeopardized by a ballast exchange, it should not take place.
• Guidelines do not apply to the uptake or discharge of BW/sediments for ensuring the safety of the ship in emergency situations or saving life
• If safety /stability threatened by BW exchange operation, operation should not be undertaken.

Reasons should be entered in ballast water record book & Report should be submitted to the maritime authorities of the Port of destination.
WCR Guidelines

BWM Plans:
- Vessel calling at WCR ports required to have on board
- complying International Maritime Organization
- Keep a record of all ballast water operations carried out.

BWM Reports:
- Ships not meeting D-2 standard, and do not conduct ballast water exchange prior to entering the waters of the WCR area from the Atlantic Ocean, or via the Panama Canal from the Pacific
- Should enter the reasons in the BW record book and a Report should be submitted to the maritime authorities of the Port of destination
Governments are encouraged to exchange information on invasive marine species or anything that will help change the perceived risk associated with ballast water and sediment.
WCR Guidelines

Submitted to IMO May 2018

- MEPC 73/INF.3
- BWM.3/Circ.2

MEPC 73/INF.3
BWM.3/Circ.2

(IMODOCS)
QUESTIONS ?