Marine Pollution

UNEP, April 2012

Rio+20 (*para. 163*) - Pollution

- **Noted "….. *negatively affected by marine pollution, including marine debris, especially plastic, persistent organic pollutants, heavy metals, and nitrogen-based compounds, from a number of marine and land-based sources ….*"**
- **committed to "*take action to reduce the incidence and impacts of such pollution on marine ecosystems*"**
- **"…*follow up of the relevant initiatives such as the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, as well as the adoption of coordinated strategies*"**
- ***"commit to take action to, by 2025, based on collected scientific data, achieve significant reductions in marine debris to prevent harm to the coastal and marine environment"***
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Issues and Challenges

- Diffuse sources still problematic
- Financing of infrastructure to deal with issues limited/expensive, e.g. wastewater
- Lack of awareness of the Land-Ocean connection
- Multiple agencies and initiatives – coordination can challenging
- Knowledge of the interaction of climate change and pollutants
- New pollutants emerging – micro-plastics, endocrine disrupters
- Accumulation - e.g. micro-plastics

Existing initiatives/measures/best practices – Global/Regional

- GPA – 3 partnerships focus
- UNEP – Waste Management, Chemicals
- IMO – London Convention
- FAO – lost and abandoned gear
- UNIDO – pollution control/best practices
- GEF – LME projects
- World Bank – GPO pollution pillar
- Plastics Industry – Global declaration

GPA Action on Nutrients:

- ***Improving state-of-knowledge:***
  - **Global Overview:** *"Our Nutrient World - The challenge to produce more food and energy with less pollution"*
  - *Pilot projects (e.g. Manila Bay)*
  - *Compilation of BMP*
  - *Promote nutrient use efficiency*
- ***Resource mobilization:***
  - *GEF project on Global Nutrients Cycle*
  - *GEF PIF on Nitrogen management*

GPA Action on Wastewater Sewage:

- Developing targets and indicators for WW to feed into SDG Goal for Water
- Global on-line consultations on WW and water quality for Post-2015 Development Agenda
- Establishment of Global Partnership on WW

GPA Actions on Marine Litter

Launch GPML

- Formal event at Rio+20
- ToR for GPML drafted

– Engage partners

- Regional Seas Programmes
- Private sector (e.g. plastics industry)
- UN-system (e.g. FAO; IMO)
- Governments
- Major Groups/NGOs

– Mobilize resources

  – Norway
  – Netherlands, etc.

GPA Actions on Marine Litter

- **Set reduction targets, based on Rio+20**
  - Establish baseline and methodologies
- **Reduce litter influx to coastal areas**
  - Improvement of land-based solid waste management
  - Improved standards/regulations
  - Demonstration projects
- **Implement Honolulu Strategy**
  - Identify innovative solutions
  - Create on-line forum

The Global Response

- **World Bank - Global Partnership for Oceans**
  - ***Addresses pollution, in line with GPA***
- **European Union**
  - ***International Conference on Prevention and Management of ML in European Seas, April 2013***
- **Plastics Industry**
  - ***Global Declaration to work with partners to tackle plastics in the marine environment, March 2011***

Way Forward

- **Strengthen partnerships especially for capacity building and knowledge sharing**
- **Financial incentives for tackling pollution issues – wastewater**
- **Agreed targets/objectives, methods**
- **Establish baseline(s)**

Marine alien invasive species

Marine Alien Invasive Species (AIS)

In the Rio+20 - Future We Want :

> **Para "164. We note the significant threat alien invasive species post to marine ecosystems and resources and commit to implement measures to *prevent the introduction of, and manage the adverse environmental impacts* of alien invasive species including, as appropriate, those adopted in the *framework of the IMO***

Animals and plants considered AIS

7000 species in ballast water

10 billion tonnes ballast water transferred per year

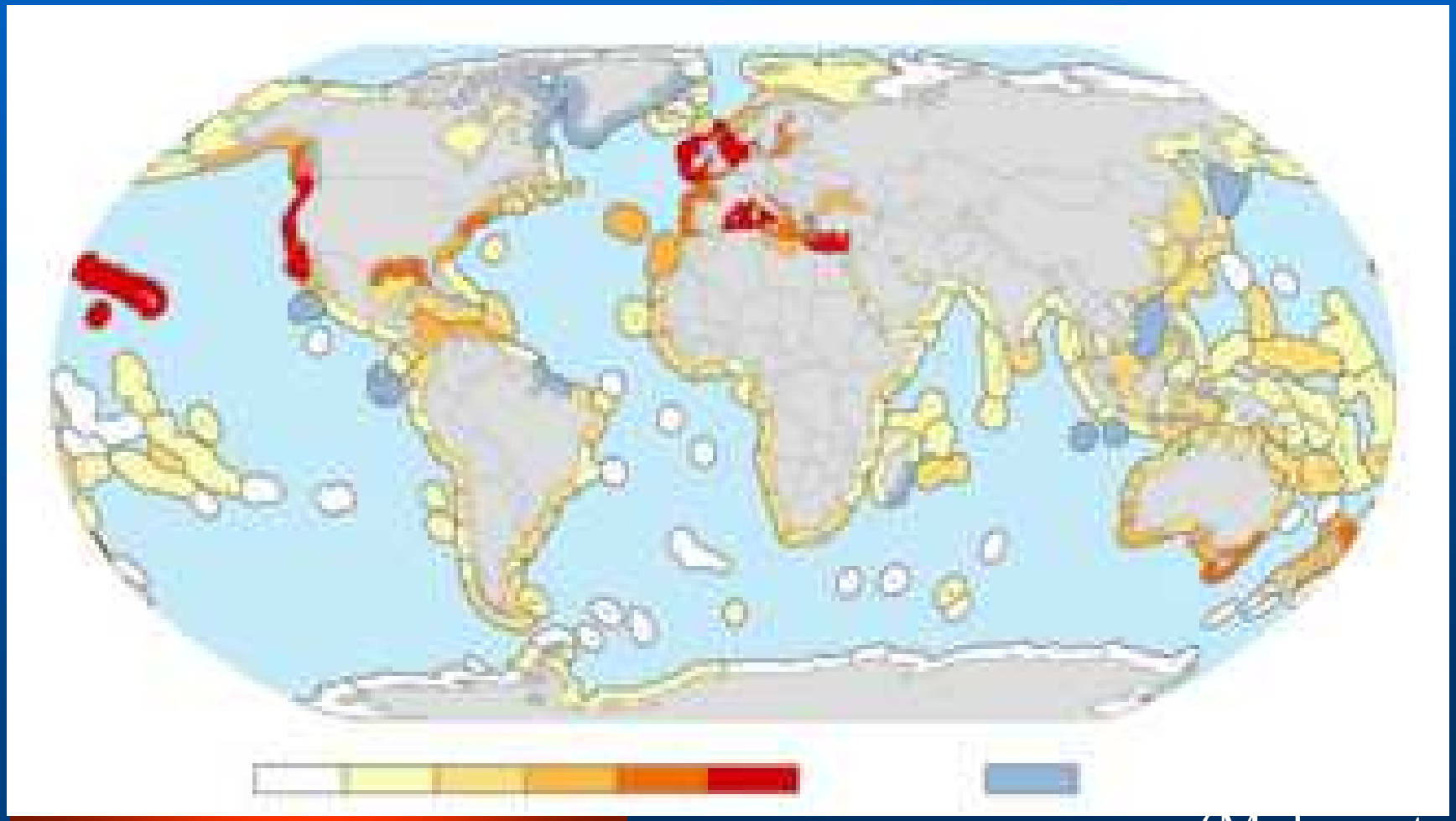
Issues/Challenges

- **Multiple pathways for introducing marine alien invasive species**
  - **Ballast water primary source**
  - **Aquaculture also significant and potentially**
  - **Aquarium trade, hull fouling, marine debris, live bait**
- **Significant and increasing risks associated with aquaculture due to widespread use of exotic species**
- **Removal of barriers, as well as stronger and new vectors increases IAS pressure**

Challenges/Issues (cont)

- **Difficult and expensive to eradicate**
- **Prevention cheaper but not without issues - TBT, treatment**
- **Climate change will make it easier for AIS – overall beneficial**
- **Knowledge of the extent of MAIS limited in most areas of the world especially East Asia; impacts often under-estimated**
- **Weak baseline, species origin or native ranges often obscure**
- **Limited assessments and methodologies**

Marine Invasive Alien Species (IAS)



(Molnar et al 2

Critical obstacles

- **Inadequate policy and legal frameworks and insufficient institutional coordination at national, regional and global levels**
- **Limitations in implementation of existing policies and laws for reducing IAS**
- **Lack of understanding of the severity of the threat posed by IAS at political as well as technical levels**
- **Insufficient human, technical, institutional and logistical capacity for addressing IAS**
- **Limited public awareness of IAS, their threats and potential impact**
- **Insufficient financial support to programmes addressing IAS, whether through policy development, supporting enforcement and building compliance, or building capacity and awareness**

Policy Frameworks

- **Convention on Biological Diversity Article 8(h)**
  "…*prevention of introductions and control or eradication of alien species that threaten ecosystems, habitats or species*"
- **Aichi Biodiversity Target 9**
  "By 2020, IAS and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment"
- **Several international legal instruments address or mention IAS, but binding regulations are rare**
- **Few countries have developed legal and institutional systems for responding effectively to IAS**

Existing initiatives/measures/best practices

- **Convention for the Control and Management of Ship's Ballast Water and Sediments – IMO; GEF Projects**
- **International Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS Convention)**
- **Guidance for minimizing the transfer invasive aquatic species as biofouling (hull fouling) for recreational craft – IMO**
- **IMO Guidelines for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species**

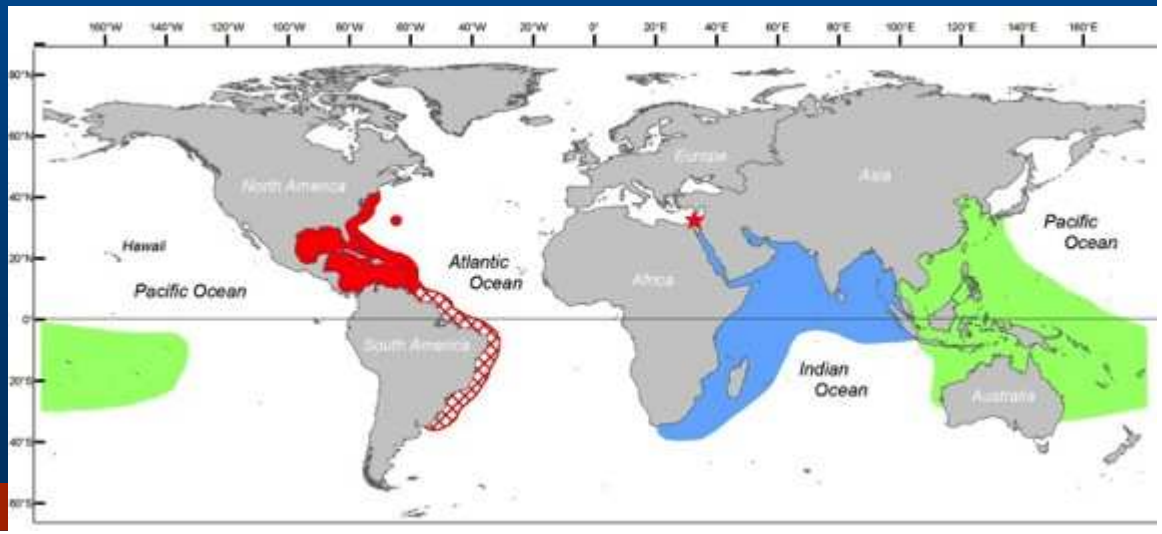
Existing initiatives/measures/best practices

- **ICES Code of Practice for the Introduction and Transfer of Marine Organisms**
- **FAO Code of Conduct for aquaculture**
- **Global Invasive Species Programme (GISP)**
- **Risk Assessments**

Lionfish in the Caribbean

- **Introduced in the early-mid 1980s – deliberate/accidental releases associated with aquarium trade**
- **Established in Wider Caribbean, widespread ecosystem impacts**
- **Regional Strategy for the Control and Mitigation of the Invasive Lionfish in the Wider Caribbean Region developed**
  - **On-the-ground implementation of actions through exchanges of experiences, protocols, and tools**

- Reduce costs with common programs, approaches and tools;
- Facilitate fund-raising
- Ensure that the actions are consistent with best available knowledge



Way Forward

- **Strengthen implementation of the Ballast Water Convention and related guidance**
- **Promote FAO Code and guidelines for coastal aquaculture**
- **Agreed method/protocol for assessing MAIS needed along with assessments (incl risks)**
- **Development and implementation of risk management strategies**