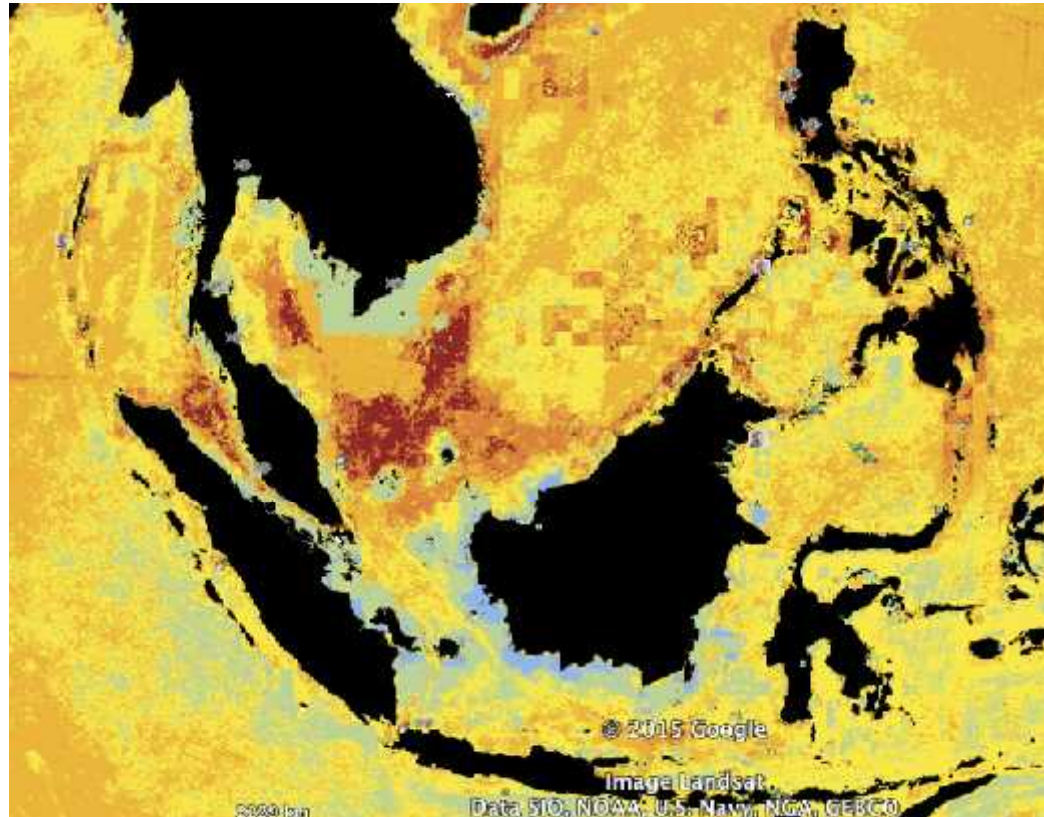


Prioritization and the protection of seaspace



UNCLOS and other international legal frameworks governing the protection of the coastal and marine environment

Youna Lyons

*Senior Research Fellow, Centre for International Law,
National University of Singapore*

Outline

- I. **UNCLOS framework : the general obligation to protect the marine environment and the balancing of coastal States' right and duty towards the environment with the rights of other States**
- II. **Identification of marine sensitive environments, vulnerable species and habitats**
- III. **Regulations of maritime uses taking into account areas of particular sensitivity**

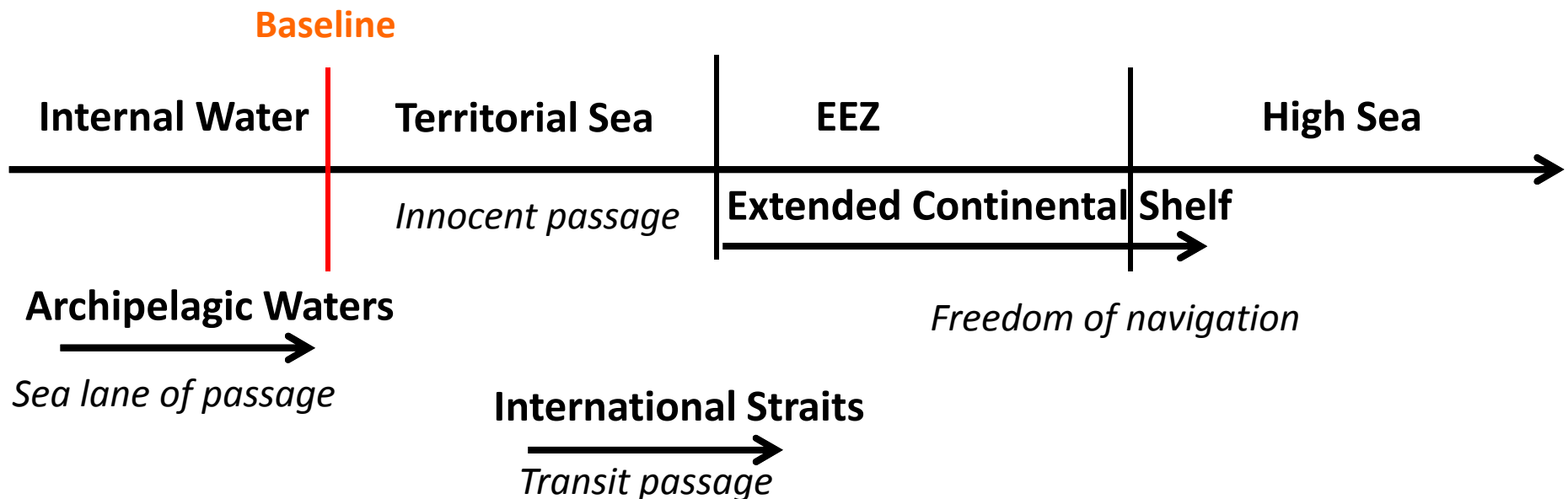
Conclusion

I. UNCLOS framework

1/6

Balancing coastal States' right and obligation to protect the marine environment with the rights of other States

- Respective rights and duties vary depending on maritime zone: territorial sea, international strait, international sea lane, archipelagic waters, exclusive economic zone, extended continental shelf, high sea, area



I. UNCLOS framework

2/6

Balancing coastal States' right and obligation to protect the marine environment with the rights of other States

In the territorial sea,

- **coastal States have full sovereignty and other States only have a right of innocent passage;**
- **Coastal State can adopt regulations relating to the preservation of the marine environment and against pollution BUT they shall not apply to the design, construction, manning or equipment of foreign ships beyond what is provided in int'l conventions**
- **Coastal State can designate sea lanes, Traffic Separation Schemes and other routing measures (must be published)**

I. UNCLOS framework

3/6

Balancing coastal States' right and obligation to protect the marine environment with the rights of other States

In Archipelagic Waters,

- **Archipelagic States have sovereignty over this maritime zone;**
- **Other States have a right of innocent passage through archipelagic waters and right of sea lanes passage through the archipelagic sea lanes**

I. UNCLOS framework

4/6

Balancing coastal States' right and obligation to protect the marine environment with the rights of other States

In the Exclusive Economic Zone,

- Coastal States have sovereign rights over the resources and other States have the freedom of navigation and to lay cables and pipelines; They can also undertake pure marine scientific research
- Coastal States can inspect & detain a vessel in EEZ if it is violating international rules and standards and causing/threatening to cause major damage to the marine environment
- As a corollary to their sovereign right to living resources, they also have the obligation to conserve living resources and jurisdiction to adopt laws preventing foreign vessels and parties from violating its fisheries and conservation rules and enforce them (including boarding if needed).

Balancing coastal States' right and obligation to protect the marine environment with the rights of other States

In Straits used for international navigation

- **Bordering States can adopt laws and regs with respect to the control of pollution that give effect to international regulations**
- **They may also designate sea lanes and TSS after submission to the IMO**
- **Other States have a right of transit passage, that is the freedom of navigation for continuous and expeditious transit and 'which shall not be impeded'**

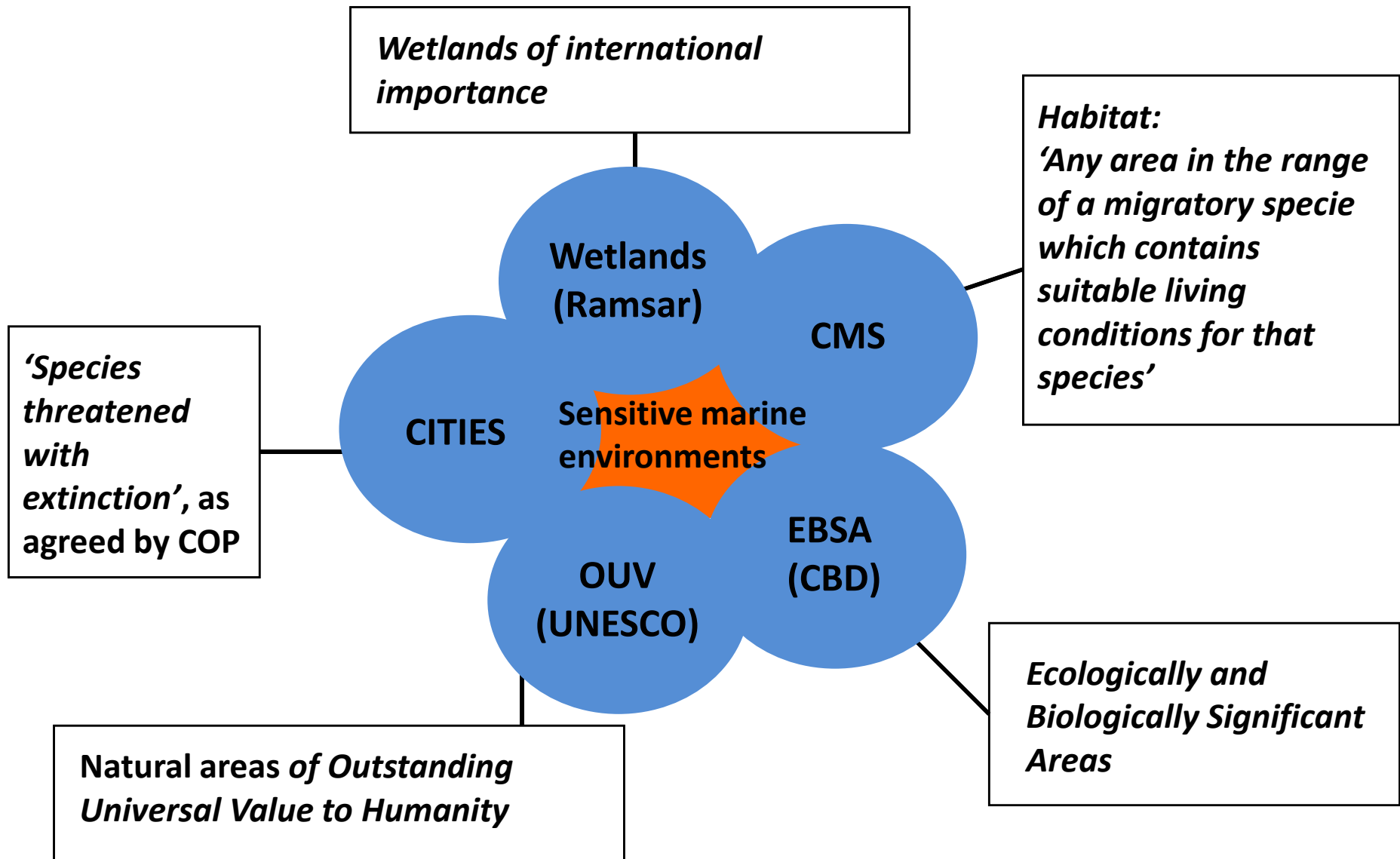
General yet clear obligation to protect

- Protect and preserve the marine environment [Art.192]
- Exploit their natural resources [living and non-living] in accordance with the duty to protect the marine environment [Art. 193]
- Take all measures that are necessary to prevent, reduce and control pollution of the marine environment *from any source* [Art.194(1)]
- Protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life [Art. 194(6)]

II. Identifying sensitive marine environments

within national jurisdiction

1/6



II. Identifying marine sensitive environments

2/6

The Convention against the International Trade of Endangered Species (CITES)



Poached Green sea turtle (SCS)

CITES lists species that are 'threatened with extinction', such as

- Giant clams (*Tridacnidae spp*)
 - Green sea turtle (*Chelonia mydas*)
 - Hawksbill sea turtles (*Eretmochelys imbricata*)
 - Scleractinian (hard) coral (*Scleractinia spp*)
- [CITES Appendix II]
- Dugong (*Dugong dugon*)
 - Whale shark (*Rhincodon typus*)

[CITES Appendix I, i.e. species under greater threat than those in Appendix II)

II. Identifying marine sensitive environments

3/6

Convention on the Conservation of Migratory Species (CMS - 1979)

The Convention includes the protection of the habitat of migratory species, being *'any area in the range of a migratory specie which contains suitable living conditions for that species'* [Art.1 & 2]



Green Sea turtle movements

Hawksbill and Green turtles are in Appendices 1 and 2 of CMS and the subject of the Indian Ocean–South-East Asia Marine Turtle Memorandum of Understanding (IOSEA MOU)

Several sharks species have been added to the CMS convention: e.g. Whale shark (*Rhincodon typus*) Shortfin mako (*Isurus oxyrinchus*)

II. Identifying marine sensitive environments

4/6

1971 Ramsar Convention on the Protection of Wetlands of International Importance especially as Waterfowl Habitat

- Party States committed to designate at least one national wetland of int'l significance in terms of ecology, botany, limnology or hydrology (Art.2)
- Wise use of selected wetlands & monitoring of impacts of technological developments, pollution and other human impacts
- Active Conference of the Parties
- Criteria for the designation of such wetlands as at 2005 : 1. representative, rare or unique – 2. supports vulnerable, endangered species – 3. biological diversity – 4.refuge – 5. supports 20,000 or more waterbirds – 6.supports 1% of a population of waterbird – 7. indigenous fish representative of wetlands benefits – 8. fish spawning ground – 9. supports 1% of a specie of wetland dependent non-avian animal specie

II. Identifying marine sensitive environments

5/6

1972 Convention for the Protection of the World Cultural and Natural Heritage (UNESCO Convention)



The mission of UNESCO's World Heritage—to encourage the identification, protection and preservation of **cultural and natural heritage around the world considered to be of outstanding universal value (OUV)** from the aesthetic or scientific point of view.

UNESCO Marine Parks include Tubbataha Reefs(also a Ramsar Site) in the Sulu Sea and the Great Barrier Reef of Australia

II. Identifying marine sensitive environments

6/6

Convention on Biological Diversity (CBD - 1992)

States must identify, monitor and report on components of biodiversity for conservation and sustainable use [Art.7]

Scientific criteria for Ecologically and Biologically Significant Areas (EBSAs)

Developed by COP IX/20 to guide States Parties in implementation:

- (1) Uniqueness and rarity
- (2) Special importance for life history stages of species
- (3) Threatened, endangered or declining species and/or habitats
- (4) Vulnerability, fragility, sensitivity, slow recovery
- (5) Biological productivity and (6) Biological diversity
- (7) Naturalness

III. Regulations of maritime uses taking into account sensitive environments

1/14

Offshore Oil & Gas Activities

Sensitivity mapping under the Oil Spill Preparedness and Response Convention OPRC

Shipping

**Special Area under MARPOL
Particularly Sensitive Sea Areas
More stringent rules under Ballast Water Convention**

Dumping

Avoiding sensitive areas when determining dumping sites

Deep Seabed Mining

Areas of Particular Environmental Interest (APEIs)

High Seas Fisheries

Vulnerable Marine Ecosystems (VMEs)

III. Regulations of maritime uses taking into account sensitive environment

2/14

Vulnerable Marine Ecosystems (VMEs) - High Seas Fisheries

- Developed following 2006 UNGA calling upon RFMOs to adopt conservation measures to protect VMEs from significant adverse impact from bottom fishing activities
- 2008 FAO Guidelines for the management of deep-sea fisheries in the High Sea (esp. VMEs)
- UNGA 2009 and 2011 called for standardized impact assessments and strengthened measures to assess cumulative impacts, ensure that assessment are based on best available science and are shared + mechanism to ensure compliance with VMEs

III. Regulations of maritime uses taking into account sensitive environments

3/14

Areas of Particular Environmental Interest (APEIs) under ISA regulations

- **The ISA is charged with taking the measures necessary to ensure effective protection of the marine environment from seabed mining in the Area**
- **APEIs designed to establish a network of 9 protected areas in the Clarion Clipperton Zone to protect:**
 - . **VMEs as defined by the FAO criteria for deep-sea bottom fisheries in the High Sea**
 - . **Areas representative of the full range of ecosystems. Habitats, communities and species of different biogeographic regions;**
 - . **Areas of sufficient size to protect and ensure the ecological viability and integrity of the features for which they were selected.**

III. Regulations of maritime uses taking into account sensitive environments

4/14

Identification of dumping sites under the 1972 London Convention

- **Review of biological and ecological characteristics of a potential dumping site involves:**
 - . **Avoid benthic species and habitat in particular the presence of vulnerable ecosystems and protected specie; as well as ecologically or biologically significant areas;**
 - . **The presence of economically important species and vulnerable, endemic, protected and/or migratory species (including marine mammals and seabird)**
- **Also reference to the need to document the proximity to other uses of the ocean**

III. Regulations of maritime uses taking into account sensitive environments

5/14

Restriction to the Freedom of Navigation/Shipping

Special Areas under MARPOL

- More stringent measures on relevant pollution source: oil pollution (Annex I); noxious substances in bulk (Annex II); sewage (Annex IV); garbage (Annex V)
- Sea area where for recognised technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic, the adoption of special mandatory methods for the prevention of sea pollution by [oil, noxious liquid substances, sewage or garbage, as applicable] is required [*slightly different wording in each Annex according to pollution type*]

III. Regulations of maritime uses taking into account sensitive environments

6/14

Restriction to the Freedom of Navigation

PSSAs (1991, 1999, 2001 and 2005)

▪ 'An area that needs special protection through action by IMO because of its significance for recognized *ecological*, *socio-economic* or *scientific* attributes where they may be vulnerable to damage by international shipping activities'

▪ 3 elements:

- The area must meet one of 3 criteria: ecological; social, cultural or economic; or scientific and educational;
- It must be vulnerable to damage by international shipping activities
- Demanded measures can provide protection and be adopted by the IMO

III. Regulations of maritime uses taking into account sensitive environments

7/14

Restriction to the Freedom of Navigation (PSSA – Cont'd)

Ecological

- Uniqueness or rarity
- Critical habitat
- Dependency
- Representativeness
- Diversity
- Productivity
- Spawning or breeding grounds
- Naturalness
- Integrity
- Fragility
- Bio-geographic importance

Social, Cultural and Economic

- Social or economic dependency
- Human dependency
- cultural heritage

Scientific and Educational

- Research
- Baseline for monitoring studies
- Education

Note that these criteria use the same language as those developed within the Convention on Biological Diversity as criteria for Ecologically or Biologically Significant Areas

III. Regulations of maritime uses taking into account sensitive environments

8/14

Restriction to the Freedom of Navigation (PSSA – Cont'd)

Factors considered in the assessment of vulnerability to shipping:

Vessel Traffic Characteristics

- Operational factors (type of maritime activities)
- Vessel types
- Traffic characteristics
- Harmful substances carried

Natural Factors

- Hydrographical
- Meteorological
- Oceanographic

- Evidence that international shipping activities are causing or may cause damage
- Significance of the risk, potential damage, degree of harm
- History of grounding or other incidents if any and of consequences
- Adverse impacts to shipping anticipated from proposed PSSA
- Stresses from other sources
- Measures already in effect

III. Regulations of maritime uses taking into account sensitive environments

9/14

Restriction to the Freedom of Navigation (PSSA – Cont'd)

Associated Protected Measures

Actions that are to be or have been approved by IMO in the past

- Special area under MARPOL
- Ships routing or reporting systems under SOLAS/GPSR
- Other measures aimed at protecting the specific areas against environmental damage provided that there is an identified legal basis

Other considerations

- Potential of the area to be listed and protected under an international treaty such as World Heritage List, Biosphere Reserve, Ramsar site, etc
- Buffer zone can be considered

III. Regulations of maritime uses taking into account sensitive environments

10/14

Restriction to the Freedom of Navigation/Shipping

- General Provisions on Ships' Routeing (GPRS) adopted by IMO in 1985 and amended in 1995
- They include: Traffic Separation Schemes; Two-way routes; Recommended tracks; Areas to be avoided; Non-anchoring areas; inshore traffic zones; roundabouts, precautionary areas, and deep-water routes.
- Initial view that if related to the protection of the marine environment, routeing measures had to relate to pollution, but evolution on the basis of expansive interpretation of the safety of navigation, of UNCLOS' provision on the protection of the marine environment and of IMO's mandate

III. Regulations of maritime uses taking into account sensitive environments

11/14

Restriction to the Freedom of Navigation/shipping

Additional regulations under the Ballast Water Convention

- **2004 Int'l Convention for the control of management of ships' ballast water and sediments allows 'special requirements in certain areas' (Reg.C-1)**
- **One or several parties (jointly) can establish additional standards to prevent, reduce or eliminate the transfer of Harmful Aquatic Organisms and Pathogens through ships' Ballast Water and Sediments**
- **Affected States must be consulted and take into account IMO Guidelines**

III. Regulations of maritime uses taking into account sensitive environments

12/14

Sensitivity Mapping for Oil Spill Response and Preparedness (OPRC)

- The 2011 Edition of the IMO-IPIECA Guidelines has been adopted by the 63rd session of the Marine Environment Protection Committee of the IMO (March 2012) as 'Guidance on sensitivity mapping for oil spill response' for the implementation of the 1990 Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC Convention) and the OPRC-Hazardous and Noxious Substances (HNS)
- They incorporate by reference the 2002 Environment Sensitivity Index Guidelines from the United States National Oceanic and Atmospheric Administration (NOAA)

III. Regulations of maritime uses taking into account sensitive environments

13/14

Sensitivity Mapping for Oil Spill Response



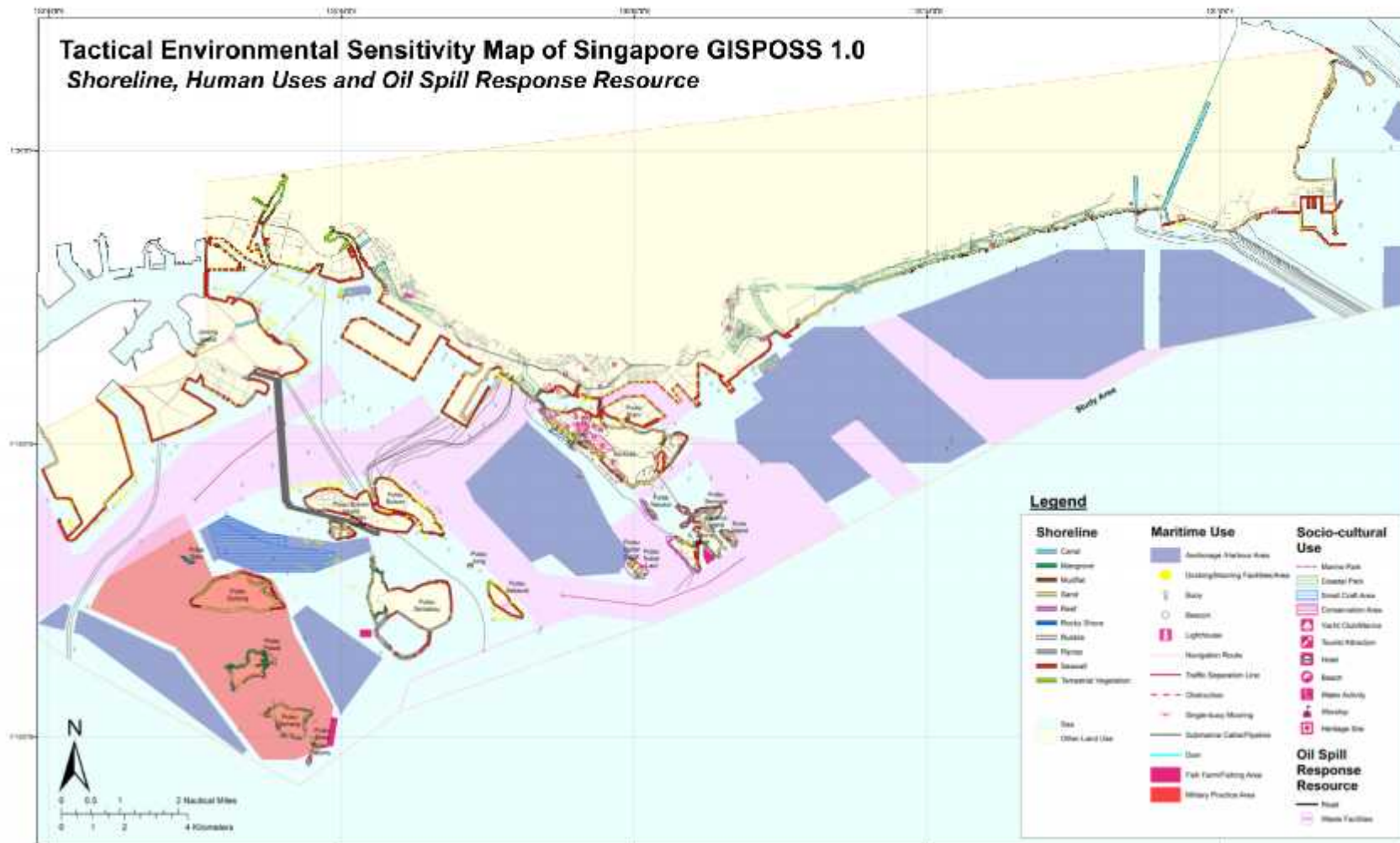
Sensitivity mapping for oil spill response



III. Regulations of maritime uses taking into account sensitive environments

14/14

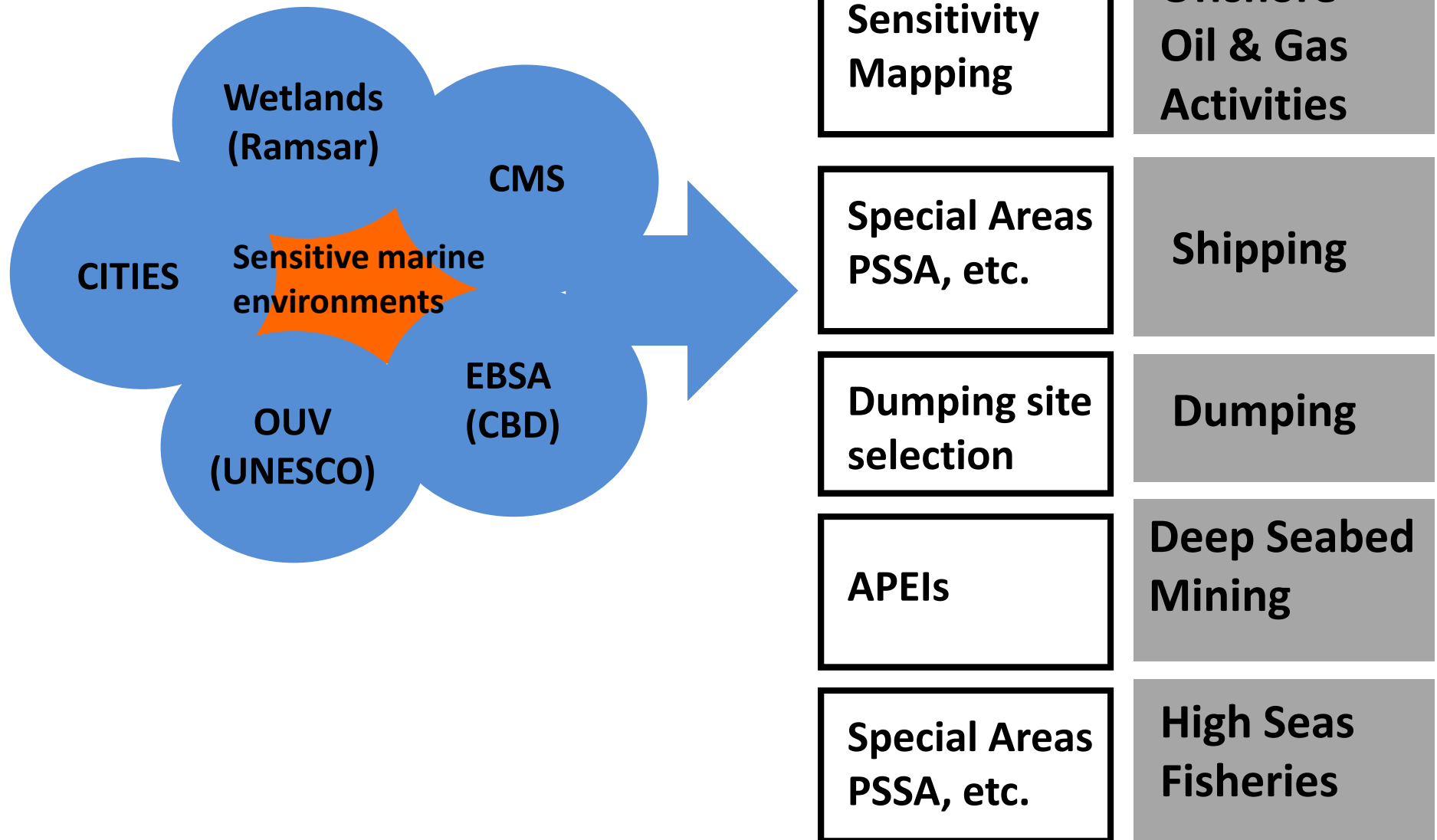
Sensitivity Mapping - Example



Sensitive marine environments in international law

| | Territorial Sea | Exclusive Economic Zone | High Sea |
|-------------------------------------|--|--------------------------|---|
| Intertidal area and internal waters | Ramsar <i>Wetlands of importance</i> | Continental Shelf | Extended Continental Shelf |
| | World Heritage Conv. <i>Outstanding Universal Value (OUV)</i> | | Area |
| | Conv. on Biodiversity <i>Ecologically and Biologically Significant Areas</i> | | International Seabed Authority Regs <i>Area of Particular Env't'l Interest (APEI)</i> |
| | London Convention <i>Dumping sites selection</i> | | FAO Guidelines (seabed and water column) <i>Vulnerable Marine Ecosystems (VMEs)</i> |
| | Shipping Regs: MARPOL, IMO Res. And OPRC <i>Special Areas under MARPOL, PSSAs and the Sensitivity index all have different criteria</i> | | <i>Seabed only</i> |
| | CITES + UNCLOS <i>Endangered Species</i> <i>Rare or fragile ecosystems & habitat of depleted, threatened and endangered species</i> | | <i>Seabed only</i> |
| | Convention on Migratory Species | | <i>Also on the High Sea through the Flag State</i> |
| | | | |
| | | | |
| | | | ALSO, IUCN Red List, MPA and Habitat classifications and other Guidelines proposed by Int'l Organisations & NGOs |

Conclusion 1/3



Conclusion 2/3

On the identification of sensitive environments

1. Identification of sensitive species and habitats is required under international law
2. List sensitive, threatened or protected species and habitats in Southeast Asia under international law and map their range
3. Note that they can include valuable resources such as fish breeding grounds
4. Encourage States to request public EIAs for coastal and offshore activities (it would help identification process)

Conclusion 3/3

On the management of uses and limitation of negative impacts on sensitive environments

1. Mapping sensitive habitats according to international law would assist in management of uses
2. Develop regional standards for sensitivity mapping
3. Engage in sensitivity mapping of parts of the seas of Southeast Asia where sensitive areas (on ecological basis) compete with development
4. Restriction in activities follow the rules applicable to each activity



Thank you!

Questions?

younalyons@nus.edu.sg

Source: Census of Marine Life:
http://www.comlmaps.org/extra/ngs/Ocean_Life_Diversity_Distribution-300dpi.pdf