Seychelles
Marine Spatial Planning Initiative
Overview

Workshop to consider MSP in the Western Indian Ocean

13th November, 2017
AVANI Seychelles, Barbarons Resort & Spa, Seychelles

Ministry of Environment, Energy and Climate Change
MSP Core Team: Ms. Helena Sims and Dr. Joanna Smith
What is Marine Spatial Planning (MSP)?

A **public** process of **analysing** and **allocating** the spatial and temporal **distribution of human activities** in marine areas to achieve **ecological, economic, and social objectives** that are usually specified through a **political process**.

Why MSP?
What problem is it solving?

The ocean is becoming a very busy place - Allocate space for future economic development → business certainty

Decisions are taken ministry by ministry: integration and coordination issues

Low buy-in for marine protected and managed areas when stakeholders are not consulted & Compliance for marine protected areas

Existing uses are in conflict with one another & Future activities may threaten existing activities

Address conflicts and issues & Create maps and data catalogue to inform decisions

The ecosystem is not considered in decisions Ecosystem-based approach to decisions

Climate change impacts are uncertain

MSP

Seychelles MSP Initiative 2017. Information is presented for discussion purposes only. Subject to change upon review and revision.
**Where is Marine Spatial Planning being used?**

### Five Year Review:
1. Belgium
2. The Netherlands
3. Norway

### Implemented:
1. Australia
2. Canada (Pacific)
3. China
4. Germany
5. USA (MA, OR, RI)

### Completed, not implemented:
1. Belize*
2. Canada (Beaufort Sea, Atlantic, Pacific)
3. Mexico (Gulf of California)
4. Portugal

### Underway, complete by 2020:
1. American Samoa
2. Antigua and Barbuda
3. Canada (Nunavut)
4. Indonesia
5. Jamaica*
6. Mexico
7. Northern Mariana Islands & Guam
8. Palmyra Atoll
9. St Kitts and Nevis*
10. **Seychelles**
11. USA (HI, Wake I, Johnston Atoll, Howland I, Baker I, Jarvis I)

### Will or might have by 2025:
1. Australia
2. **Barbados**
3. Bermuda (UK)
4. Brazil
5. Bulgaria
6. Cambodia
7. Colombia
8. Costa Rica
9. Croatia
10. Curacao
11. Cyprus
12. Denmark
13. El Salvador
14. Estonia
15. Finland
16. France
17. Greece
18. Iceland
19. Ireland
20. Israel
21. Italy
22. Kiribati
23. Latvia
24. Lithuania
25. Malta
26. Montserrat (UK)
27. Namibia
28. New Zealand
29. **Palau**
30. Poland
31. Portugal
32. Romania
33. Slovenia
34. South Africa
35. Spain
36. Sweden
37. Thailand
38. United Arab Emirates
39. United Kingdom
40. USA Arctic
41. Vietnam

* Small Island Developing States

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**When completed, Seychelles MSP**
- First in Western Indian Ocean
- Largest for Small Island Developing States
- Second largest in the world (Norway is largest)
- Has secured funding (SeyCCAT)

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### The Seychelles MSP history....

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>IMF Economic Reform Program</td>
</tr>
<tr>
<td>2009</td>
<td>Peak piracy threats in Indian Ocean</td>
</tr>
<tr>
<td>2010</td>
<td>Seychelles commits to protect 30% of the EEZ</td>
</tr>
<tr>
<td>Oct-13</td>
<td>Seychelles endorses a new Protected Areas Policy</td>
</tr>
<tr>
<td>2013-2014</td>
<td>Maxan Modelling to identify high biodiversity areas</td>
</tr>
<tr>
<td>Feb-14</td>
<td>TNC initiates the SeyMSP initiative</td>
</tr>
<tr>
<td>Nov-15</td>
<td>SeyCCAT ACT (Act 18 of 2015)</td>
</tr>
<tr>
<td>Feb-16</td>
<td>Debt swap agreement finalised</td>
</tr>
<tr>
<td>Nov-16</td>
<td>SeyCCAT operational</td>
</tr>
<tr>
<td>Sep-17</td>
<td>WB Board approves USD20m in Sust. fisheries &amp; resource man.</td>
</tr>
<tr>
<td>Sep-17</td>
<td>MSP Policy drafting</td>
</tr>
<tr>
<td>Oct-17</td>
<td>Blue Grants first call for proposals</td>
</tr>
<tr>
<td>Nov-17</td>
<td>Cabinet approval MSP Phase 1 areas</td>
</tr>
<tr>
<td>Nov-17</td>
<td>Cabinet approval MSP Phase 2 areas</td>
</tr>
<tr>
<td>Nov-17</td>
<td>Nomination file submitted</td>
</tr>
</tbody>
</table>
Seychelles Debt Swap, Trust, and Marine Spatial Plan

**Biodiversity Protection Goal 30%**

**Develop Blue Economy**

**Address Climate Change**

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**$20M Debt Swap**

- ($15 M loan and $5 M grant Seychelles loan agreement)
- Trust created to negotiate loan and debt buy back
- Pay back foreign creditors: low interest, long term loan
- Up to 65% of loan now payable in local currency

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**Marine Spatial Plan**

- Zoning Design for Existing and Future Uses
- Expand MPAs from 0.04% to 30%
- Implementation plan and priority strategies

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**SEYCCAT Trust**

- Funding to implement MPAs
- Funding to implement the marine plan
- Funding for climate change adaptation

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Seychelles MSP Milestones: Two Phases

2016 Phase 1 (Dec 2017 Grace):
Coarse scale
High Biodiversity Zone 1: 5%
Med Biodiversity Zone 2: 10%

2017-2020 Phase 2: Refine &
Territorial Sea
High Biodiversity Zone 1: 15%
Med Biodiversity Zone 2: 15%
Goal: Develop a marine spatial plan by 2020 that

– Legislates marine protected areas that are 30% of Seychelles’ Exclusive Economic Zone and Territorial Sea
– Promotes the Blue Economy and other national strategies to support ocean health, local economy, and economic growth.
– Addresses climate change in coastal and offshore habitats
– Is monitored and adapted over time

Manu San Félix/National Geographic

Photo credit: Jason Houston

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Seychelles
Marine Spatial Planning Initiative

Led by Government of Seychelles
Facilitated by The Nature Conservancy Partnership with GOS-UNDP-GEF

Didier Dogley, Minister Environment Energy and Climate Change Principal
Wills Agricole, Principal Secretary Energy and Climate Change (MEECC)
Alain de Comarmond, Principal Secretary Environment (MEECC)
Matt Brown, Conservation Director TNC Africa
Dr. Joanna Smith, MSP Science Manager TNC Canada
Helena Sims, MSP Project Manager TNC Africa
Rick Tingey, Spatial Support Systems, USA
Justin Prosper, GIS MEECC
Seychelles MSP: Governance Framework

**EXECUTIVE MANAGEMENT**

Government of Seychelles
* MSP Lead: Ministry of Environment, Energy and Climate Change

MSP Executive Committee
* Chair: Minister Didier Dogley, Ministry Environment, Energy and Climate Change
* Members: Ministries and Marine Stakeholders

**PLANNING AND OUTPUTS**

MSP Steering Committee
* Co-Chair: Wills Agricole, Principal Secretary (Energy & Climate Change), MEECC
* Co-Chair: Alain de Comarmond, Principal Secretary (Environment), MEECC

MSP Core Team
- Project Director: Matt Brown, TNC Africa
- Science & Process Lead: Joanna Smith, Ph.D., TNC Canada
- Project Manager: Helena Sims, TNC Africa
- GIS & Spatial Support: Rick Tingey, Spatial Support Systems
- Admin Support: MEECC
- Data Custodian: Justin Prosper, MEECC

**ADVICE AND ENGAGEMENT**

- Technical Working Groups
  - Marine Ecological
  - Socio-Economic
  - Terrestrial Ecological

- Stakeholder Workshops
- MSP Working Group
- Stakeholder Consultations

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Marine sectors in Seychelles

- High Value tourism & Fisheries (Industrial, Semi-Industrial, Artisanal, Sports & recreational fisheries).
- INFRASTRUCTURE; Ports, Shipping and Transportation, Public Utilities, Marinas and Yacht Services
- ENFORCEMENT; Coast Guard & Maritime Security
- PETROLEUM; Seismic Studies, Licensed Blocks, Areas of Interest
- AQUACULTURE; Mariculture Master Plan, Cultivate Native Species
- RENEWABLE ENERGY; Offshore Wind, Solar Power
Environmental Pressure

CORAL BLEACHING

SEA LEVEL RISE

POLLUTION & SEDIMENTATION

Graham et al. 2015. Nature

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Possible future developments?

DEEP-SEA MINING
Minerals
Aggregates

LUXURY TOURISM
Marinas
Floating Hotels

ENERGY
Thermal Energy Conversion
Other Innovations
Threats to ocean activities in Seychelles

PIRACY

Seychelles EEZ
Western Indian Ocean
High Seas

IUU FISHING

Illegal
Unregulated
Unreported
1. Review existing information and data
2. Review global “lessons learned”
3. Gather and explore spatial data
4. Define the zoning process
5. Evaluate scale and scope
6. Confirm planning objectives
7. Draft zoning framework
8. Define stakeholder preferences
9. Develop spatial and non-spatial tools
10. Analyse data and represent uses
11. Draft zoning design
12. Draft allowable activities table
13. Draft management considerations
14. Finalise Outputs for Phase 1
Building a Seychelles marine spatial plan

- Government is committed to engage stakeholders and a participatory process.
- Phase 1 is to get agreement on deep water areas (15%)
- Phase 1: shallow waters and Territorial Sea are Interim Zone 2 (2014-2017)
- Phase 2 is to refine zoning design and includes identifying zones in territorial sea (2018-2020)
- Seychelles agreements with foreign fisheries will not change until those agreements end
- Allowable Activities in the zones still being discussed
- Phased approach for implementation 2020 onward
Seychelles MSP: Principles for Guiding

Decisions Developed in 2014-2015 by Technical Working Groups. Reviewed and endorsed by Steering Committee and stakeholder workshops

**GOVERNANCE & MANAGEMENT**

- National Laws, Regulations, Acts
- International Agreements
- Policy, Management Plans, Strategies, Action Plans
- Transparency, Inclusivity, Participation
- Integration, Co-management
- Environmental Stewardship
- Equity, Sustainable Development

**APPROACH & PRACTICE**

- Ecosystem-Based Management
- Precautionary Principle
- Balance ecological, economic, social and cultural objectives
- Feasible, Practical, Implementable,
- Financially Sustainable
- Adaptable, Dynamic
- Relevant Temporal and Spatial Scales

Seychelles Stakeholder Workshops 2014-2015
Seychelles MSP Technical Working Group 2015

Photo by Manu San Félix/National Geographic, shot during the Pristine Seas expedition to Seychelles, March 2015.
Marine Protected Areas Design Principles

- Representation, replication and redundancy
- Size, spacing, and shape
- Unique or characteristic species & areas: spawning, breeding areas
- Resilience and long-term protection
- Consider full ranges of uses and values of marine environment
- Transparent, participatory stakeholder process
- Identify benefits and impacts to stakeholders and communities

Photo credit: Jason Houston
Seychelles MSP Initiative

PLANNING TOOLS
**Seychelles MSP: Spatial Data Catalogue**

**FISHERIES**
- Sport Fishing
- Domestic Fishing
- Industrial Fishing
- Participatory Mapping

**BIODIVERSITY FEATURES**
- Benthic geology
- 174 “features”
- WIOMER Areas of Importance
- BirdLife Important Areas
- Participatory Mapping

**INDUSTRIAL & PUBLIC UTILITIES**
- Ferries & Shipping
- IMO Marine Highways
- Ports & Marinas
- Renewable Energy
- Participatory Mapping

**NON-RENEWABLE RESOURCES**
- Licensed Blocks
- Low Gravity Areas
- Seismic Surveys
- Sand Mining
- Participatory Mapping

**TOURISM & RECREATION**
- Marine Charters
- Diving, Snorkeling
- Viewpoints
- Accommodation
- Participatory Mapping

Sources:
- Halpern et al. 2006; British Admiralty Charts; Seychelles Port Authority 2014; Ministry Land Use and Housing 2014, TNC 2014.
- Seychelles Sport Fishing Club 2014; Ministry of Tourism and Culture 2014; Seychelles Hoteliers Association 2014.

**Over 100 layers in data catalogue**
**Analyse Data and Represent Uses**

Source: MEECC database
Planning Tools: Identification of High Biodiversity Areas
Seychelles MSP: Planning for the future
Bathymetry

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Seychelles MSP: Planning Unit Approach

**SHALLOW**

- < 200 M depth
- 1 km²

**DEEP**

- > 200 M depth
- 50 km²
Seychelles MSP Initiative

FRAMEWORKS & OUTPUTS
Seychelles MSP: Zoning Framework

**Zone 1**
High Biodiversity Protection

To allocate 15% of the EEZ to provide high protection for marine biodiversity goals, by representative habitats and species.

**Zone 2**
Medium Biodiversity Protection

To allocate 15% of the EEZ to provide medium protection for biodiversity goals, by representative species and habitats, and allow economic opportunities for sustainable uses.

**Zone 3**
Multiple Use

To allocate 70% of the EEZ to maximise economic opportunities and Blue Economy in Seychelles.
DRAFT High Biodiversity – Zone 1

• The highest protections in Seychelles for key species, habitats, ecosystems
• Implemented using the Protected Areas Policy, Fisheries Act, other legislation; multiple levels of protections within Zone 1
• Objective is to conserve biodiversity features (habitats, species, ecological processes) from disturbance or anthropogenic changes
• Provide reference sites to monitor climate change, species populations, coral bleaching, etc.
• Restrict or limit extraction and seabed alteration
• Compatible uses do not alter the biodiversity objective
• Objectives for biodiversity and sustainable uses
• Multiple levels of protections within Zone 2
• Species and habitats within this zone can be managed with some harvest or extraction levels
• Ecosystem services - the benefit to humans
• Some restrictions for extraction and seabed alteration
• Compatible uses align with the objective for each area
### Allowable Activities Table → Regulatory Framework

**DRAFT Activities Table - Map 2.0 – 2.2 (Version 2.2, updated 29 Sep 2015)**

<table>
<thead>
<tr>
<th>Marine Activity or Use</th>
<th>Zone 1: High Biodiversity</th>
<th>Zone 2: Medium Biodiversity</th>
<th>Zone 3: Multiple Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artisanal Fishing</td>
<td>X</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Industrial Purse Seine Fishing</td>
<td>X</td>
<td>X</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Industrial Longline Fishing</td>
<td>X</td>
<td>X</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Mariculture</td>
<td>X</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Semi-industrial Fishing</td>
<td>X</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Sport Fishing</td>
<td>X</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Subsistence Fishing</td>
<td>O ²</td>
<td>O ²</td>
<td></td>
</tr>
<tr>
<td>Disposal and Dumping</td>
<td>X</td>
<td>X</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Dredging</td>
<td>O ²</td>
<td>O ²</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Port, Marinas, Wharves, Jetties</td>
<td>O ²</td>
<td>O ²</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Reclamation</td>
<td>O ²</td>
<td>O ²</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Shipping, Transportation and Ferries</td>
<td>O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Deep-sea Mining</td>
<td>X</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Petroleum Shipping (during construction)</td>
<td>X or O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Petroleum Development</td>
<td>X or O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Seismic Surveys</td>
<td>O ³, O ², O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Anchorage and Moorings</td>
<td>O ³, O ², O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Tourism Accommodation</td>
<td>O ³, O ², O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Motorised Recreational Activities (e.g., water, watercrafts)</td>
<td>O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Non-motorised Recreational Activities (e.g., kayaks, sail)</td>
<td>O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
<tr>
<td>Scientific Research and Monitoring</td>
<td>O ³</td>
<td>O ³</td>
<td>O ³ or O ²</td>
</tr>
</tbody>
</table>

**NOTE:** All activities must be compatible with the objective(s) for the spatial area of zone and level of protection. Access to zones for emergency or exceptional circumstances are allowed. Activities are conducted to be conducted in accordance with all applicable laws, regulations, treaties and agreements. Activities not highlighted in the table should contact the appropriate managing authority/ies for direction. The approval of an activity is subject to the decision-making process of the responsible authorities.

<table>
<thead>
<tr>
<th>TABLE KEY</th>
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<tbody>
<tr>
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<tr>
<td>X</td>
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**DRAFT Restrictions and Conditions**

1. Activity requires approved management plans including stewardship and ecological sustainability. Development must adhere to strict environmental standards including pollution and seaweed alteration.
2. To serve staff, facilities or infrastructure that manages the zone, including enforcement.
3. Development proposals require a transparent and participatory process with all affected stakeholders.
4. Permanent mooring buoys recommended where practical, anchor in designated areas.
5. Restrictions may apply to avoid or minimize disturbance on key species and ecological functions.
6. Government approved permit required for research and monitoring activities.
7. Restrictions may apply including pace and scale, depending on species targeted.
8. In accordance with strict international published scientific guidelines for minimizing disturbance to cetaceans.
9. Where licensed blocks already exist and only for scientific surveys (e.g., data collection and bathymetry, not extraction).

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Seychelles Protected Area Policy (2013)
Seychelles Sustainable Development Strategy (2012-2020)
Seychelles Blue Economy Roadmap
Nairobi Convention (1985)
Convention on Biological Diversity (1992)
IMO Conventions
NPNCA of 1969 (National Parks & Nature Conservancy Act)
Environment Protection Act (WAB regulations)
Physical Planning Act
INTEGRATION WITH OTHER PROJECTS
Integrate with other projects

- GoS-UNDP-GEF PCU Protected Areas Project
- GoS-UNDP-GEF PCU Outer Islands Project
- GoS-UNDP-GEF PCU PA Finance Project
- Demersal Fisheries Management Plan Mahe Plateau
- Blue Economy Roadmap
- SWIOFish3 – World Bank
- Climate Change & EBA projects
- Mariculture Master Plan
- Yellowfin Tuna reduction
- Sustainable Tourism (SSTL)
- BioFinancing
Seychelles MSP: Outputs

• **Marine Spatial Plan**
  – Zoning framework
  – Zoning Design
    • High biodiversity protection zones – 15% of EEZ
    • Medium biodiversity protection zones - 15% of EEZ
  – Allowable Activities Tables
  – Draft Implementation Plan

• **Planning tools**
  – Master List of Definitions and Uses
  – Stakeholder preferences and priorities
  – Spatial data catalogue and decision-support tools
  – MSP Atlas

• **Website and Information**
• **Stakeholder Input Summary**
• **MSP Policy and Legislation**
• **MSP Implementation & Governance Arrangements**
www.seymsp.com

Contact for more information:
Ms. Helena Sims email: helena.sims@tnc.org