TOWARDS SUSTAINABLE MANAGEMENT OF MARINE AND COASTAL HABITATS

WANNAKIAT THUBTHIMSANG

PHUKET MARINE BIOLOGICAL CENTER, DMCR, THAILAND

ASIA- PACIFIC DAY FOR THE OCEAN

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UN CONFERENCE CENTER, BANGKOK
OUTLINE

• Management of marine and coastal habitats
• Practices and constraints
• Challenges of marine and coastal management
• Future plan for sustainable management of marine and coastal habitats
Key Legislations and Policies

The Constitution of the Kingdom of Thailand (2017)

Legislations
- Marine and Coastal Environmental Protection
  - National park Act (1961)
  - National Reserved Forest Act (1964)
  - Urban Planning Act (1979)
  - Industrial Estate Authority of Thailand Act (1979)
  - Building Control Act (1979)
  - Factory Act (1992)
  - Promotion and Conservation of National Environmental Quality Act (1992)
  - National Tourism Policy (2008)

- Living Marine Resources
  - Wildlife Reservation and Protection Act (1992)
  - Emergency Decree on Fisheries (2015)

- Non-living Marine Resources
  - Petroleum Act (1971)

- Marine and Coastal Resources Management
  - Marine and Coastal Resources Management Act (2015)

Policies
- Sustainable Development Goals : SDGs
- Thailand 4.0
- 20 years National Strategic Framework
- Government Policies

Thailand 4.0
- 12th National Economic and Social Development Plan

Promotion and Conservation of Environmental Quality National and Plan (2017-2021)

Government agencies involved on marine and coastal management in Thailand

<table>
<thead>
<tr>
<th>Agencies</th>
<th>Ministry</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Department of Fisheries</td>
<td>Ministry of Agriculture and Cooperatives</td>
<td>Fisheries</td>
</tr>
<tr>
<td>2. Department of Marine and Coastal Resources</td>
<td>Ministry of Natural Resources and Environment</td>
<td>Management on Natural resources, habitat and marine environment</td>
</tr>
<tr>
<td>3. Department of Pollution Control</td>
<td>Ministry of Natural Resources and Environment</td>
<td>Pollution control</td>
</tr>
<tr>
<td>4. Department of National Park, wildlife and plant</td>
<td>Ministry of Natural Resources and Environment</td>
<td>Management of National Parks</td>
</tr>
<tr>
<td>5. Marine Department</td>
<td>Ministry of Transportation</td>
<td>Marine transportation</td>
</tr>
<tr>
<td>6. Royal Thai Navy</td>
<td>Royal Thai Navy</td>
<td>Marine security</td>
</tr>
</tbody>
</table>
**Area responsibility of agencies concerned on coastal management in Thailand**

<table>
<thead>
<tr>
<th>Agencies</th>
<th>0-12 nm</th>
<th>0-24 nm</th>
<th>0-EEZ</th>
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</thead>
<tbody>
<tr>
<td>1. Department of Fishery</td>
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<td></td>
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<tr>
<td>2. Department of Marine and Coastal Resources</td>
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<td></td>
<td></td>
</tr>
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<td>3. Royal Thai Navy</td>
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</tbody>
</table>

![Diagram showing area responsibility of agencies](image-url)
Guideline for Protected Area Management Categories (IUCN, 2014)

<table>
<thead>
<tr>
<th>Categories</th>
<th>List of MPAs</th>
<th>main objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>Strict nature reserve</td>
<td>- Endemic species, special diversity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reserve for research activities</td>
</tr>
<tr>
<td>Ib</td>
<td>Wilderness area</td>
<td>- Special diversity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reserve for natural protection</td>
</tr>
<tr>
<td>II</td>
<td>National park</td>
<td>- Ecological conservation</td>
</tr>
<tr>
<td>III</td>
<td>Natural monument</td>
<td>- Special cultural protection</td>
</tr>
<tr>
<td>IV</td>
<td>Habitat/Species management area</td>
<td>- Ecological conservation and species protection</td>
</tr>
<tr>
<td>V</td>
<td>Protected landscape/seascape</td>
<td>- Special landscape/seascape protection</td>
</tr>
<tr>
<td>VI</td>
<td>Managed resource protected area</td>
<td>- Protected area under management measures</td>
</tr>
</tbody>
</table>
Ecological Management Networks for MPAs in Thailand

1. MPAs in Thailand
   1) Marine National Park
   2) Non-hunting Area
   3) Wetland Areas
   4) Biosphere Reserved Area
   5) Marine Fisheries Reserved Areas
   6) Environmental Protected Areas
   7) Fisheries Restricted Areas
## MPAs in Thailand

<table>
<thead>
<tr>
<th>Conservation Areas</th>
<th>Areas (km²)</th>
<th>MPAs (%)</th>
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</thead>
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<tr>
<td>1. Marine National Parks</td>
<td>5,333.74</td>
<td>1.65</td>
</tr>
<tr>
<td>2. Non-hunting Areas</td>
<td>338.17</td>
<td>0.11</td>
</tr>
<tr>
<td>3. Wetland</td>
<td>1,727.17</td>
<td>0.53</td>
</tr>
<tr>
<td>4. Biosphere Reserves</td>
<td>246.00</td>
<td>0.08</td>
</tr>
<tr>
<td>5. Marine Fisheries Reserved Areas</td>
<td>167</td>
<td>0.05</td>
</tr>
<tr>
<td>6. Environmental Protection Areas</td>
<td>10,966.83</td>
<td>3.39</td>
</tr>
<tr>
<td>7. Fisheries Restricted Areas</td>
<td>12,080.65</td>
<td>3.73</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30,859.56</strong></td>
<td><strong>9.54</strong></td>
</tr>
<tr>
<td><strong>Overlap areas</strong></td>
<td><strong>6,755.38</strong></td>
<td><strong>2.09</strong></td>
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<tr>
<td><strong>Total MPAs</strong></td>
<td><strong>24,104.18</strong></td>
<td><strong>7.45</strong></td>
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**Remarks**: Total marine territorial areas **323,488 km²**
MPAs in Thailand, excluding Fishes Refugias
24,104.18 sq.km.(7.45 %)
1. Many government agencies involve in management
   - need task force or committee

2. No provincial boundary at sea areas
   - need integrated approach

3. Develop affective integrated protocol
   - need mandate from agencies concerned
Coastal zone

Coastal erosion
Mangrove
Marine
Working Groups

Issues / Areas base Sub-committee

Core areas for DMCR mandate (coral reef, seagrass, mangrove, beach, mud flat, etc.)

Provincial Marine and Coastal Resources Committee responsibility

National Marine and Coastal Resources Committee

Promotion of Marine and Coastal Resources Management Act 2015

A new tool for establishment and management of MPA in Thailand

Promulgation and Effectives: 24 June 2015
ACT ON THE PROMOTION OF MARINE AND COASTAL RESOURCES MANAGEMENT
B.E.2558 (2015)

3. Definition Conservation resources and habitats
18. Designated mangrove conservation areas
20. Designated MPAs
23. Designated regulations to control activities in the MPA
Article 3 Definition Conservation resources and habitats:

Marine resources: coral reefs, sea grass, endangered species, mangroves, others marine fauna and flora.

- Marine habitats: estuarine area, beach forests, coastal and islands areas, sand dune.
- Others construction: artificial reefs, seawall, break water.
Article 20 : Designated MPAs

1. Pristine marine and coastal areas
2. Abundant and healthy natural areas
3. Ecologically significant areas

These designated areas must be located outside the conservation areas (of Article 3)
Article 3 Definition Conservation areas:

- Marine National Parks (National Park Act 1961)
- Wildlife Conservation areas
  (Wildlife Conservation and Protection Act 1992)
- Non-hunting areas
  (Wildlife Conservation and Protection Act 1992)
- National Forest Reservation areas
  (National Forest Reservation Act 1964)
- Environmental Protected Areas
  (Enhancement and Conservation of National Environmental Quality Act, 1992)
- Fishery Reserved areas (Fisheries Act 1947)
Article 23 : Designated regulations to control activities in the MPA (Article 20)

• Prohibited all activities which can be impacted to target critical resources or habitat.
• For preservation, conservation, rehabilitation and area utilization.
• For land uses or zoning.
• Beach regulations for public uses
• Other appropriated regulations for the sustainable utilization
MPAs Establishment Process

Site Selection
- Resources status data (Ecological Base)
- Socio-economic data
- Hot spot/Hot issue

Participation
- Boundary mapping
- Zoning and conflict resolution
- Stakeholder participation
- Partnerships for management
- Management measures
- Public Hearing
Step in MPA Establishment

01 Selection of Areas
- Coastal communities
- Governmental Agencies

02 Data Collection
- Primary/Secondary data
  - Ecosystem
  - Socio-cultural & economy
  - Stakeholder etc.

03 Public Consultation
  - Measures/Regulations

04 Provincial Committee
  - Participation

05 National Committee
  - Participation
  - MPA Working Group
  - Subcommittee

06 Ministers Approved

MPA Establishment
New MPA Protocol and Managements

- Stakeholder involvement
- Partnerships for management
- Zoning and conflict resolution
- Enforcement and compliance
Future plan for sustainable management of M&C habitats

National Strategy of Thailand (2018-2037)

National Reform Plan (11 Sectors)

Sector 6: National Resources and Environment
- Action Plan on Marine and Coastal Resources (13 issues)

8th Issue: Marine Spatial Planning (MSP)
12th Issue: Marine Protected Area (MPA)
Thai territorial water
323,488 km²
Work Plan of DMCR for MPA Establishment (2016-2025)
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<td><strong>100</strong></td>
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<td>Target SDG14 in 2020 : 10% = 32,348 km²</td>
<td>32,348</td>
<td>10</td>
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<td>Work plan for target achievement</td>
<td>14,405.86</td>
<td>4.45</td>
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<td><strong>Total the marine protected areas after workplan (2016-2025)</strong></td>
<td><strong>38,510.04</strong></td>
<td><strong>11.90</strong></td>
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**SDG 14**: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.5**: By 2020, conserve at least 10 percent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
Mangrove Distribution

- Mangrove distribution in 24 provinces along Thailand’s coastline
- The total mangrove area in 2014 was 245,000 ha.

Changing Mangrove area

[Graph showing mangrove area changes from 1961 to 2014]
Mangrove Areas in Thailand
Mangrove Management

- Land exploitation surveys
- Mangrove restoration
- Zoning allocation
- Certificate of ownership living in national forest area
Restoration of Mangrove plantation

1. Government sector
2. Private sector: CSR
3. Public participation in important occasion
4. Urban mangrove forests
Abandon shrimp farm Plantation

Before

After
Urban Mangrove Forest in Thailand

**Objective**

1) To be Recreation area for the community, Awareness, education and capacity building
2) Area-based integrated management and legal enforcement
3) Researches activities on mangrove habitat and bio-diversity.
4) Reduce pollution for better living

**Project Site**

This project composes of 24 sites in 18 coastal provinces, covered 20.8 sq.km.
Urban Mangrove Forest in Thailand

**Out put/Out come**

- Reserve and maintain the mangrove forest area
- People have also direct and indirect benefit from mangrove
- Awareness, Strengthen knowledge and people management participation
- Research document on value of urban mangrove forest
Ocean and Climate
You care
We try
All benefit

Thanks