

# The YSLME and WWF partnership for marine biodiversity conservation

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## 3 innovative management practices

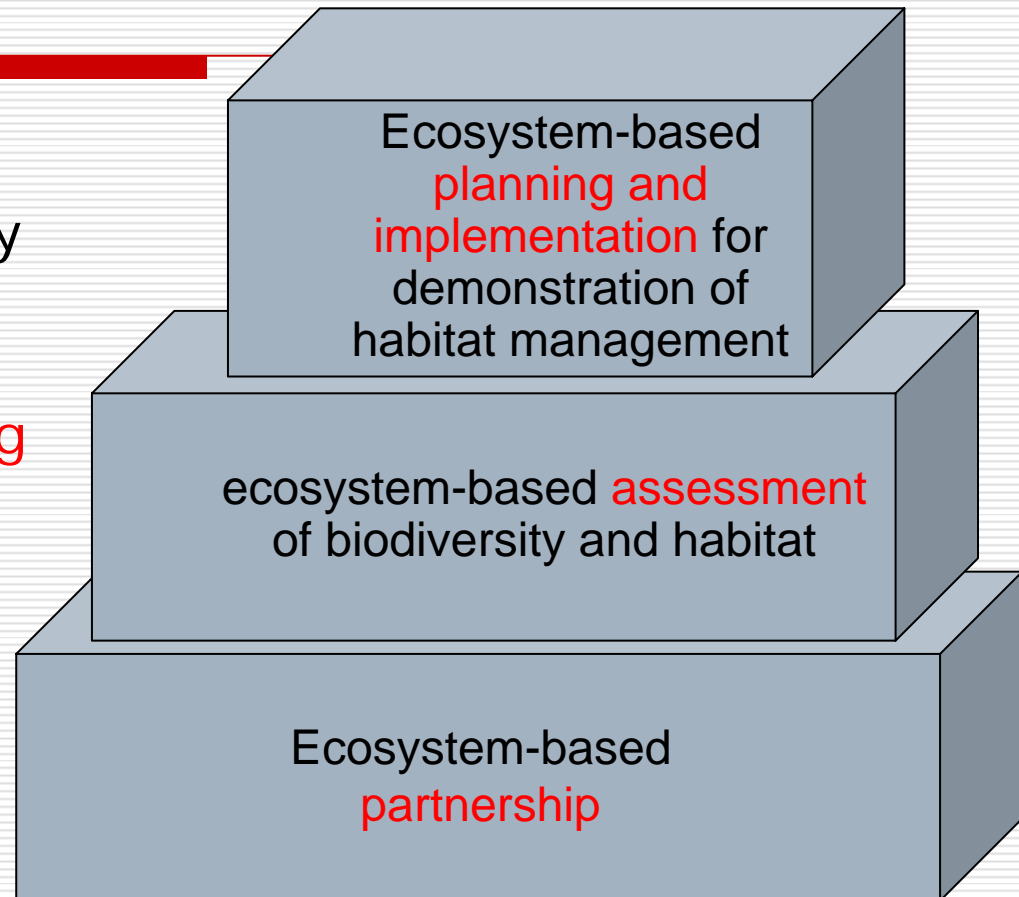
TOBAI, Sadayosi

WWF Japan

Manager, Yellow Sea Ecoregion Support  
Project

# 3 innovative management practices

- practice 1
  - ecosystem-based **assessment** of biodiversity and habitat
- practice 2
  - Ecosystem-based **planning and implementation** for demonstration of habitat management
- practice 3
  - Ecosystem-based **partnership** for planning and implementation of habitat management



# Introduction: problems and challenges to biodiversity and habitat

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## □ Threats

- Large-scale loss of coastal wetland habitats

- Reclamation

- Aquaculture ponds
- Ports
- Agriculture/ salt ponds/ industrial complexes
- China: about 37% converted
- Korea: about 43% converted

## □ Challenges

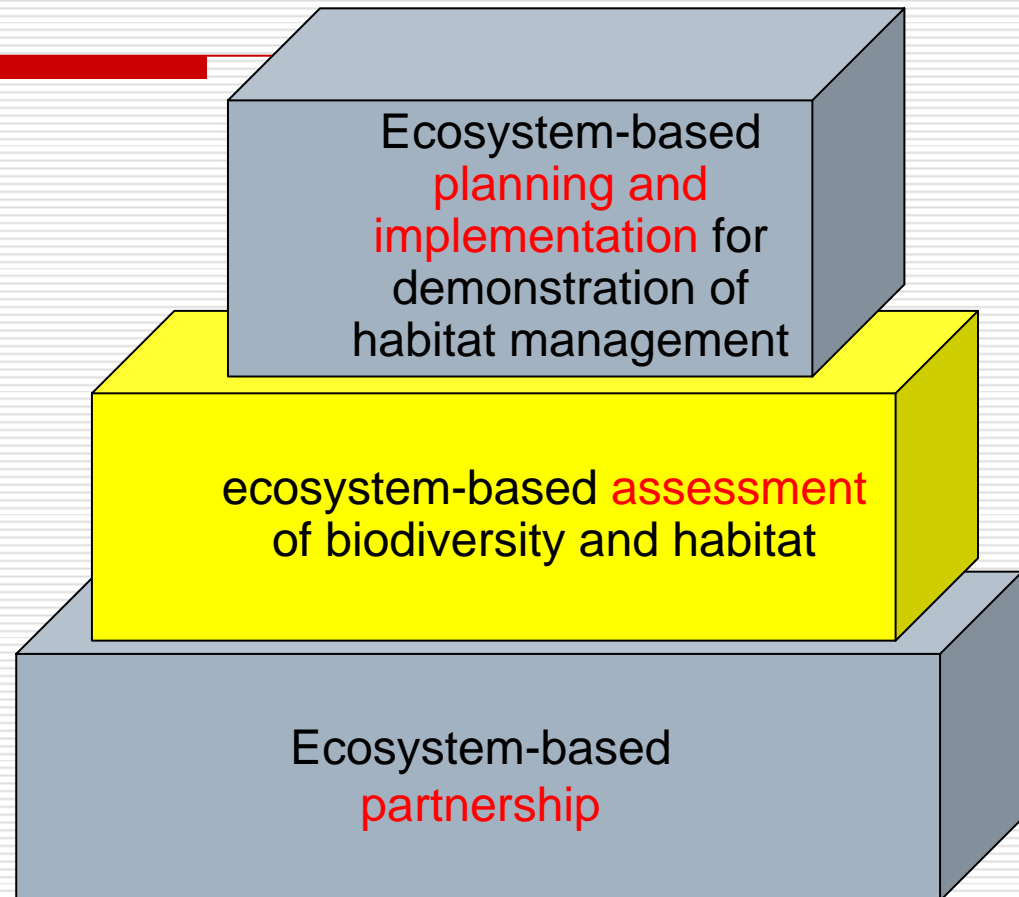
- Lack of an ecosystem-based regional plan (in 2000)
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# 3 innovative management practices

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## □ practice 1

- ecosystem-based **assessment** of biodiversity and habitat



# practice 1

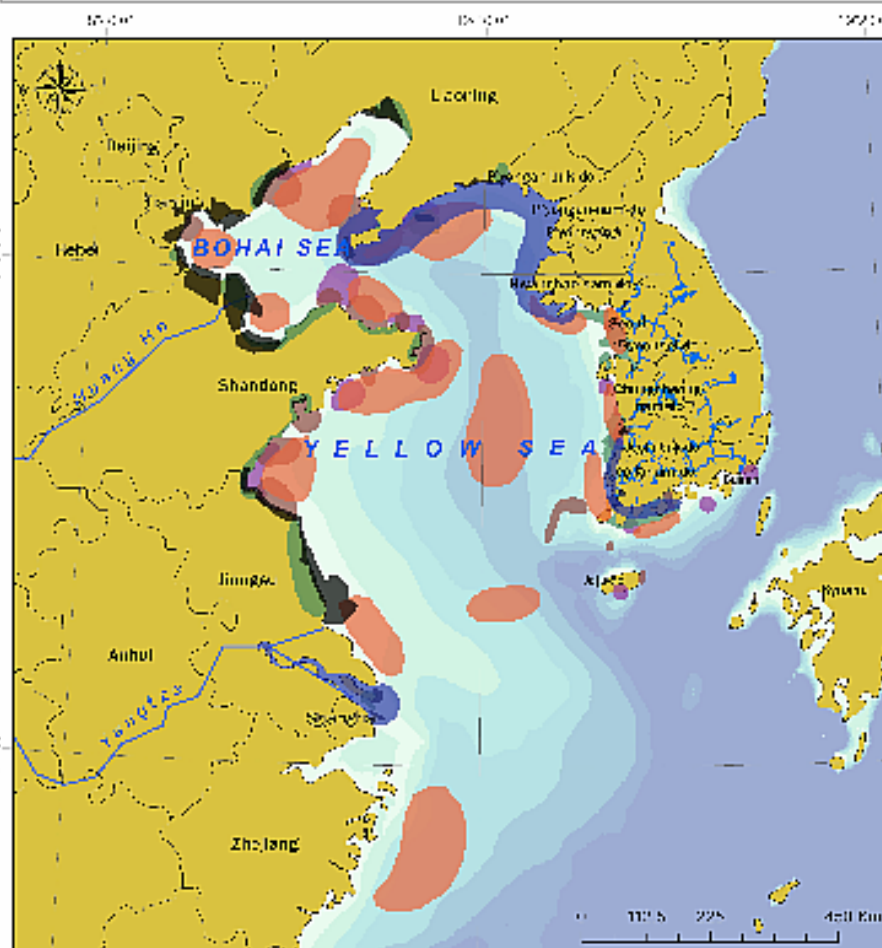
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- Practice: what was done
    - ecosystem-based **assessment** of biodiversity and habitat
    - Biological Assessment of the Yellow Sea Ecoregion
    - Priority Area Analysis of the Yellow Sea Ecoregion
  - Elements of Innovation
    - 1<sup>st</sup> multi-taxa mapping of critical habitats in the region
    - Inclusion of critical habitats for most commercially important species
    - Prioritisation of areas by their global significance
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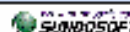


Overlaps of Globally Significant Areas for Mammals, Birds, Fish, Coastal Mollusks, Coastal Plants, and Algae in Yellow Sea Ecoregion  
- Yellow Sea Ecoregion Planning Programme -

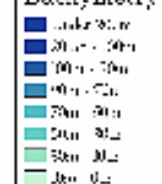


Geographic Information System (GIS) 4.0  
Ecosystems Database Customized Code

Scale 1:250,000



**Bathymetry**



Potential Priority Areas in Yellow Sea Ecoregion  
(China and South Korea)  
- Yellow Sea Ecoregion Planning Programme -

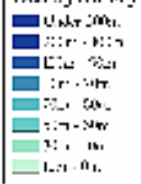


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**Bathymetry**



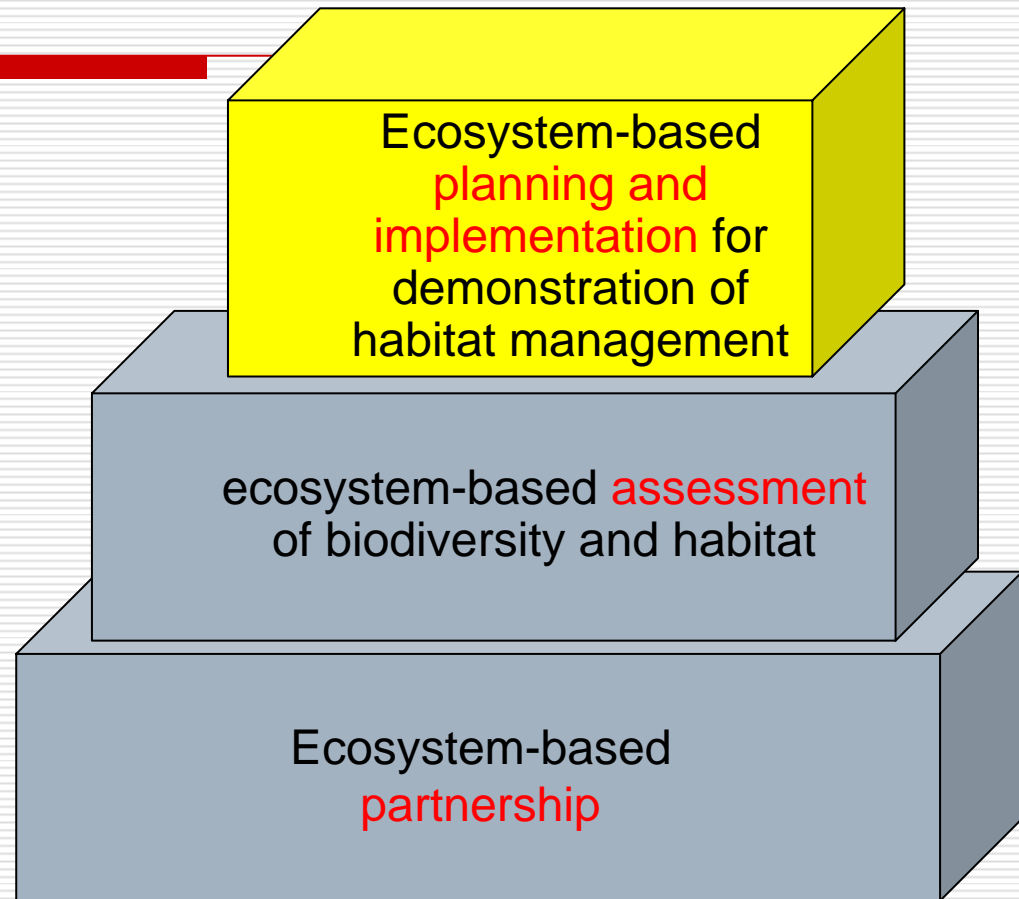
**Priority Areas List**

No.	Area Name (K)	No.	Area Name (C)	No.	Area Name (K)	No.	Area Name (C)
1	Thalassidroma Island	11	Changde Island	21	Wangsheng Island	31	Wangsheng Island
2	Andong Island	12	Changde Island	22	Wangsheng Island	32	Wangsheng Island
3	Andong Island	13	Changde Island	23	Wangsheng Island	33	Wangsheng Island
4	Andong Island	14	Changde Island	24	Wangsheng Island	34	Wangsheng Island
5	Andong Island	15	Changde Island	25	Wangsheng Island	35	Wangsheng Island
6	Andong Island	16	Changde Island	26	Wangsheng Island	36	Wangsheng Island
7	Andong Island	17	Changde Island	27	Wangsheng Island	37	Wangsheng Island
8	Andong Island	18	Changde Island	28	Wangsheng Island	38	Wangsheng Island
9	Andong Island	19	Changde Island	29	Wangsheng Island	39	Wangsheng Island
10	Andong Island	20	Changde Island	30	Wangsheng Island	40	Wangsheng Island

# 3 innovative management practices

## □ practice 2

- Ecosystem-based **planning and implementation** for demonstration of habitat management



# Ecosystem-based **planning and implementation**

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## □ Elements of innovation

- Adoption of systematic framework for habitat management at ecosystem-scale (=Yellow Sea)
- Strategic selection of demonstration sites in China and RO Korea

Which habitats?

Management of representative habitats (2020)

Which demo sites?

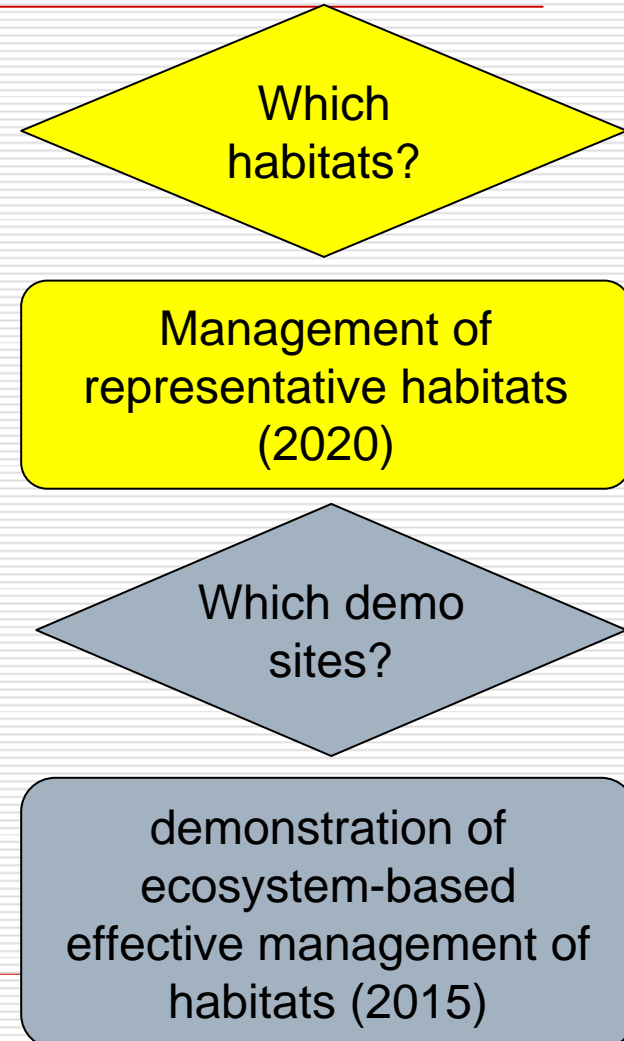
demonstration of ecosystem-based effective management of habitats (2015)

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# Which habitats?

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- Representative habitats
  - Adoption of systematic framework for habitat management at ecosystem-scale (=Yellow Sea)
  - Ramsar classification of coastal and marine wetlands
    - Most representative area of each habitat type
  - Developed criteria for important areas for management of habitats
    - Most important area for management of habitat



# Ramsar Classification of Coastal Habitats

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**A. Permanent shallow marine waters** : major bays in the west coast

**B. Marine subtidal aquatic beds**

: sea-grass and algal beds in intertidal and subtidal area

**C. Coral reefs** : corals in subtidal area (very rare in west coast of Korea)

**D. Rocky marine shores**

: bedrocks, stones or boulders in intertidal and subtidal area, and cliff in splash zone, Beaches are excluded in this category

**E. Sand, shingle or pebble shore** : sand and pebble beaches, and sand dunes

**F. Estuarine waters**

: estuaries of major rivers. All the estuaries of major rivers are in this category regardless of dyke construction

**G. Intertidal mud, sand or salt flats** : mud flats in the intertidal area

**H. Intertidal marshes** : intertidal area with vegetations

**I. Intertidal forested wetlands** : intertidal area with forest (very rare in the west coast)

**J. Coastal brackish/saline lagoons**

: no natural lagoons in the west coast. All the artificial freshwater and saltwater lakes separated from the sea by dam are in this category

**K --Coastal freshwater lagoons**; includes freshwater delta lagoons.

**Zk(a)-- Karst and other subterranean hydrological systems**, marine/coastal

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# Locations of 10 representative habitats in the west coast of Korea

Habitat Types	Locations
Permanent shallow marine waters	Garolim Bay
Marine subtidal aquatic beds	Dumunjin
Coral reefs	Munseom in Jeju
Rocky marine shores	Cheonripo-Padori
Sand, shingle or Pebble shore	Sinduri Sand Beach, Sinduri Sand Dune, Koddol Beach
Estuarine waters	Han River Estuary
Intertidal mud, sand or salt flats	Southern mud flat of Gangwha Is
Intertidal marshes	Seocheon Salt Marsh
Intertidal forested wetlands	Janghang wetland forest in Han River
Coastal brackish/saline lagoons	Lake Shihwa



## Criteria Development for the representative habitat selection

<b>Criteria</b>	<b>Scores</b>
<b>1. Physical conditions</b>	<b>10</b>
<b>2. Species diversity</b>	<b>10</b>
<b>3. Endangered &amp; threatened species</b>	<b>10</b>
<b>4. Habitat diversity</b>	<b>10</b>
<b>5. Habitat size</b>	<b>10</b>
<b>6. Conservation status of nature</b>	<b>10</b>
<b>7. Degree of pollution and pollution sources</b>	<b>10</b>
<b>8. Future plans for development</b>	<b>7</b>
<b>9. Management and conservation plans</b>	<b>10</b>
<b>10. Economical importance</b>	<b>8</b>
<b>11. Existing studies</b>	<b>5</b>

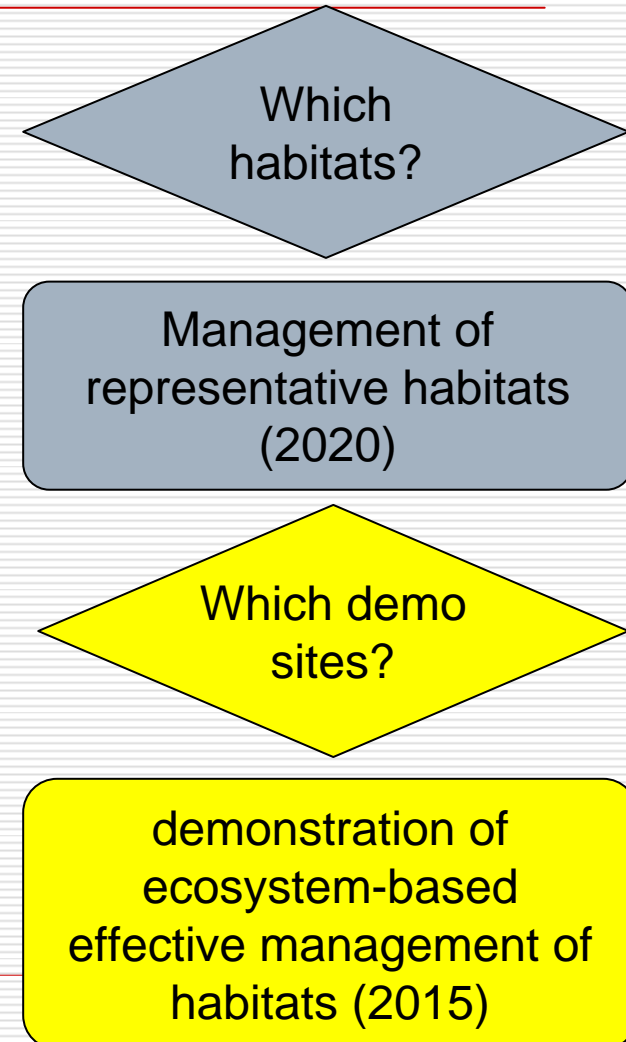
# Scoring of representative habitat to select three critical habitats

Habitat classification and scoring criteria	Shallow marine waters (A)	Aquatic beds (B)	Coral reefs (C)	Rocky marine shores (D)	Sand, shingle or pebble shores (E)			Estuarine waters (F)	Intertidal flats (G)	Intertidal marshes (H)	Intertidal forest (I)	Coastal lagoons (J)
		Dumunjin	Munseom	Cheonripo-Padori	Kongdol beach	Sinduri beach	Sinduri Dune	Han River Estuary	Ganghwa Southern Mudflat	Seocheon	Janghann Forest Wetland	Shihwa Lake
Representative habitat	Garolim Bay	Dumunjin	Munseom	Cheonripo-Padori	Kongdol beach	Sinduri beach	Sinduri Dune	Han River Estuary	Ganghwa Southern Mudflat	Seocheon	Janghann Forest Wetland	Shihwa Lake
Physical conditions	10	10	8	5	10	8	10	8	10	10	8	3
Species diversity	10	4	6	5	4	7	7	10	7	7	10	3
Endangered & threatened species	10	5	3	2	5	6	6	10	8	7	10	8
Habitat diversity	10	7	7	4	4	4	4	10	4	4	7	7
Habitat size	9	3	4	4	4	6	6	10	10	4	5	8
Conservation status of nature	9	10	9	5	10	7	7	7	7	7	7	2
Degree of pollution	7	10	10	7	10	7	7	6	7	8	8	2
Future plans for development	5	7	6	7	7	7	7	4	5	6	6	4
Management & conservation plans	8	10	10	6	10	10	10	10	10	8	9	8
Economical importance	8	5	5	5	5	4	4	6	7	6	5	6
Existing studies	3	2	5	5	2	3	3	5	5	3	4	5
<b>Total Score</b>	<b>89</b>	<b>73</b>	<b>73</b>	<b>55</b>	<b>71</b>	<b>69</b>	<b>71</b>	<b>86</b>	<b>80</b>	<b>70</b>	<b>79</b>	<b>56</b>

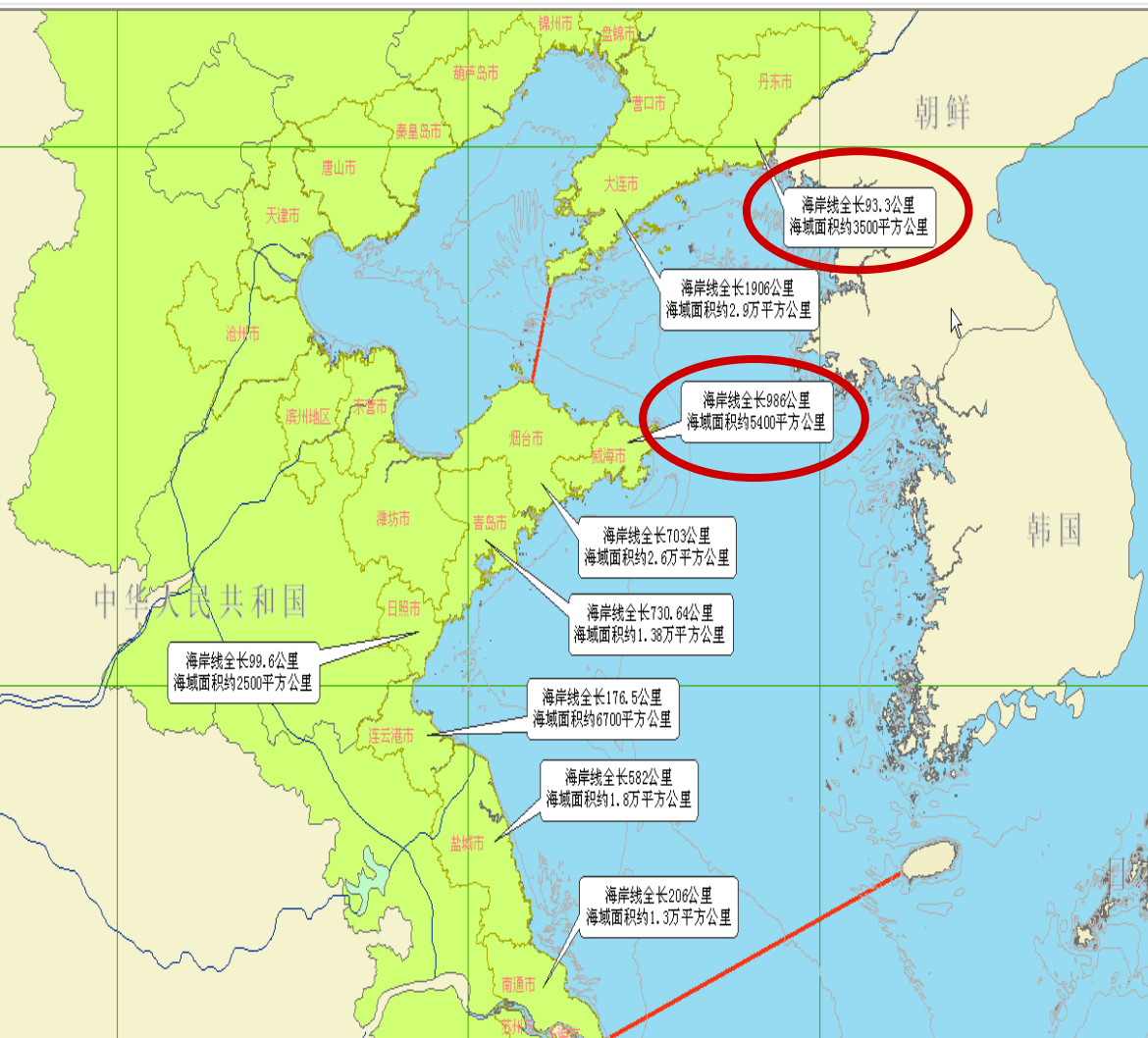
# Which demo sites?

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- Objective:
  - Select most suitable sites for demonstration of ecosystem-based effective management of habitats
- Feasibility scoring of ecosystem-based habitat management
  - A new tool
  - Final selection
  - Ensured transparency of criteria and elements, and results



# feasibility scoring of ecosystem-based management



## Yalu River Estuary

■ Representative habitat type:

Estuary

Intertidal flat

## Rongcheng Coastal Region

■ Representative habitat type:

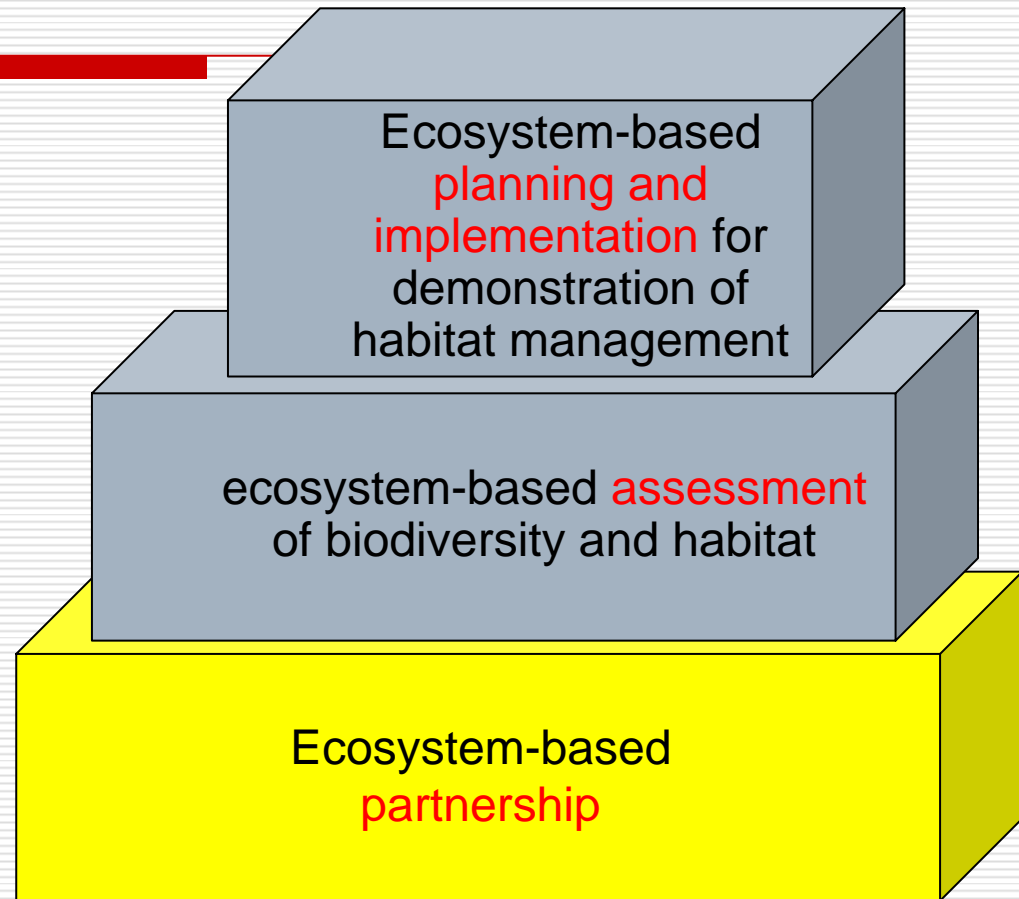
Seagrass bed

# Criteria and elements of feasibility scoring

Selection Criteria	Elements of scoring
<b>Criterion 1: Practicality of demonstrating improvement in management effectiveness</b>	<ul style="list-style-type: none"> <li>a) Level of difficulty at site</li> <li>b) Why little or no management has been achieved until now</li> <li>b) Level of opportunity for improvement – <del>how our management plan can address the problems in 1)</del></li> <li>c) Level of support at site (financial, personnel and institutional)</li> <li>c) Opportunity for inclusion of cross component management actions (e.g. pollution)</li> <li>d) opportunities for sharing and learning lessons learnt with parallel YSLME demo sites</li> <li>e) ease of producing tangible outputs and outcomes within a project period (3 years for YSESP)</li> </ul>
<b>Criterion 2: local government commitments</b>	<ul style="list-style-type: none"> <li>a) Past examples of environmental management activities and achievements with in the province (2-3 examples).</li> <li>b) Current provincial efforts in biodiversity conservation and likely outcomes.</li> <li>c) Future environmental management plans at the proposed site.</li> <li>d) Financial support (source and size of matching funds)</li> <li>e) Personnel support (experiences and qualification of a planned project leader and a coordinator)</li> <li>f) Agreements (willingness?) by other relevant government divisions to develop a coordinating institutional mechanism for management of the demo site</li> </ul>
<b>Criterion 3: Stakeholder participation</b>	<ul style="list-style-type: none"> <li>a) Willingness of current resource users (e.g. fishers) to participate in the management</li> <li>b) previous records of management by users</li> <li>c) previous records of cooperation with local government</li> <li>d) financial/ personnel support by stakeholders</li> </ul>
<b>Criterion 4: Replicability</b>	<ul style="list-style-type: none"> <li>a) identified concrete replication sites</li> <li>b) perception of impact of replication by relevant government agencies</li> </ul>

# 3 innovative management practices

- practice 3
- Ecosystem-based **partnership** for planning and implementation of habitat management



# practice 3 Ecosystem-based **partnership** for planning and implementation of habitat management

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- Practice: what was done/ is being done
    - Developed a single and unified strategy for biodiversity and habitat (YSLME SAP (Strategic Action Plan) )
    - Coordinating implementation of SAP
  - Elements of Innovation
    - Joint planning for a single strategy
    - Cross-participation in both at activities and governance levels
    - Co-financing from business sector
-

# Overview of biodiversity projects in Yellow Sea Ecoregion

**Legend**

- 1) Cooperative relationship (indicated by a solid red double-headed arrow)
- 2) Building cooperative relationship (indicated by a dotted red double-headed arrow)

**WWF/KORDI/Panasonic Yellow Sea Ecoregion Support Project**

Start-End dates: 2007.8 – 2014.9

Outputs:  
2 demo site models  
(China & Korea)  
(field)

**UNDP/GEF Yellow Sea Project (YSLME)**

Start-End dates: 2005.3 – 2011.3

Outputs:  
SAP  
(policy)

**UNDP/GEF Yellow Sea Project 2nd Phase**

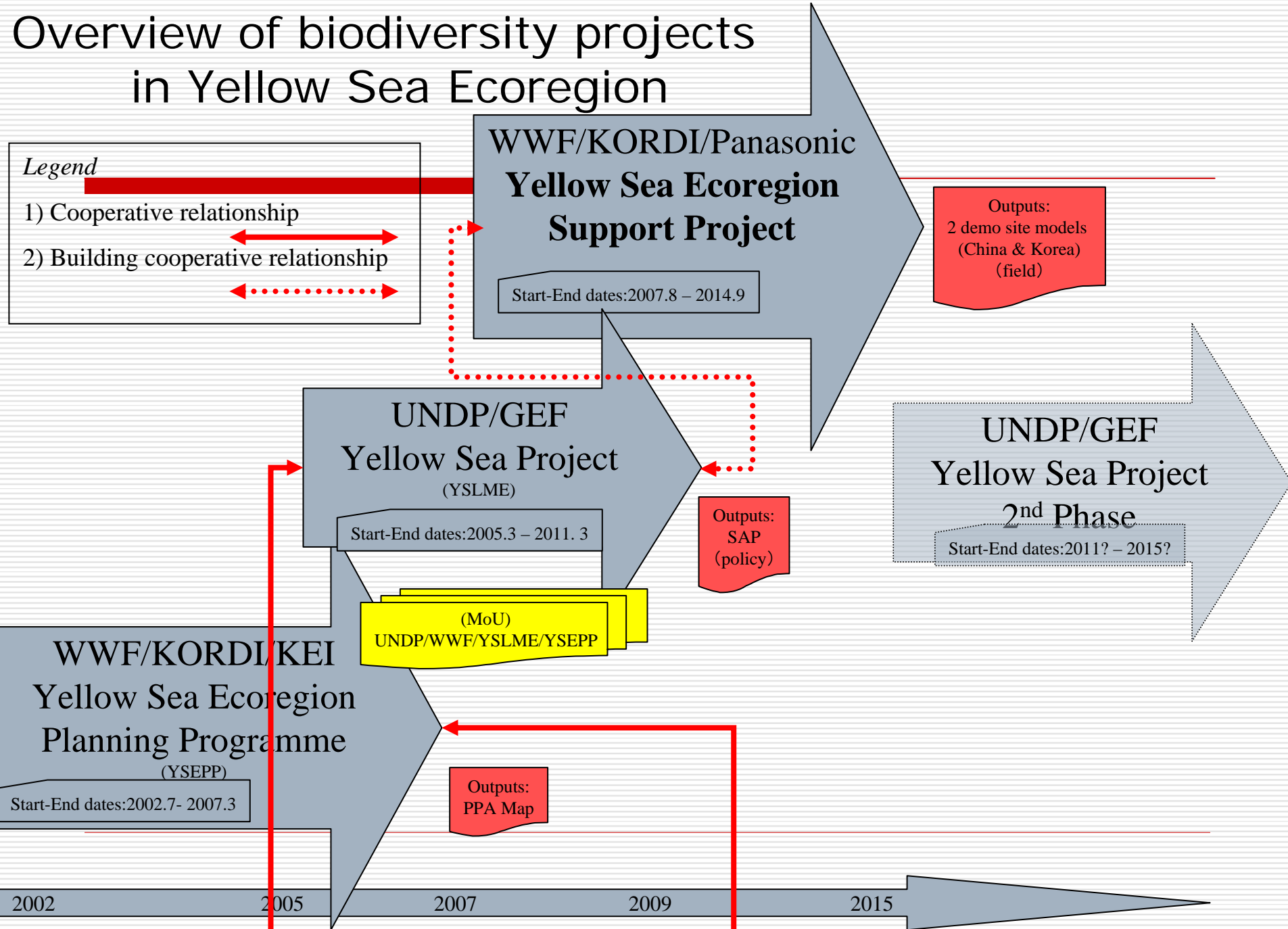
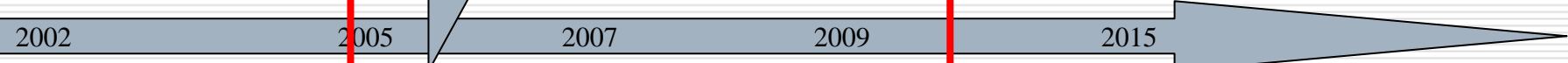
Start-End dates: 2011? – 2015?

(MoU)  
UNDP/WWF/YSLME/YSEPP

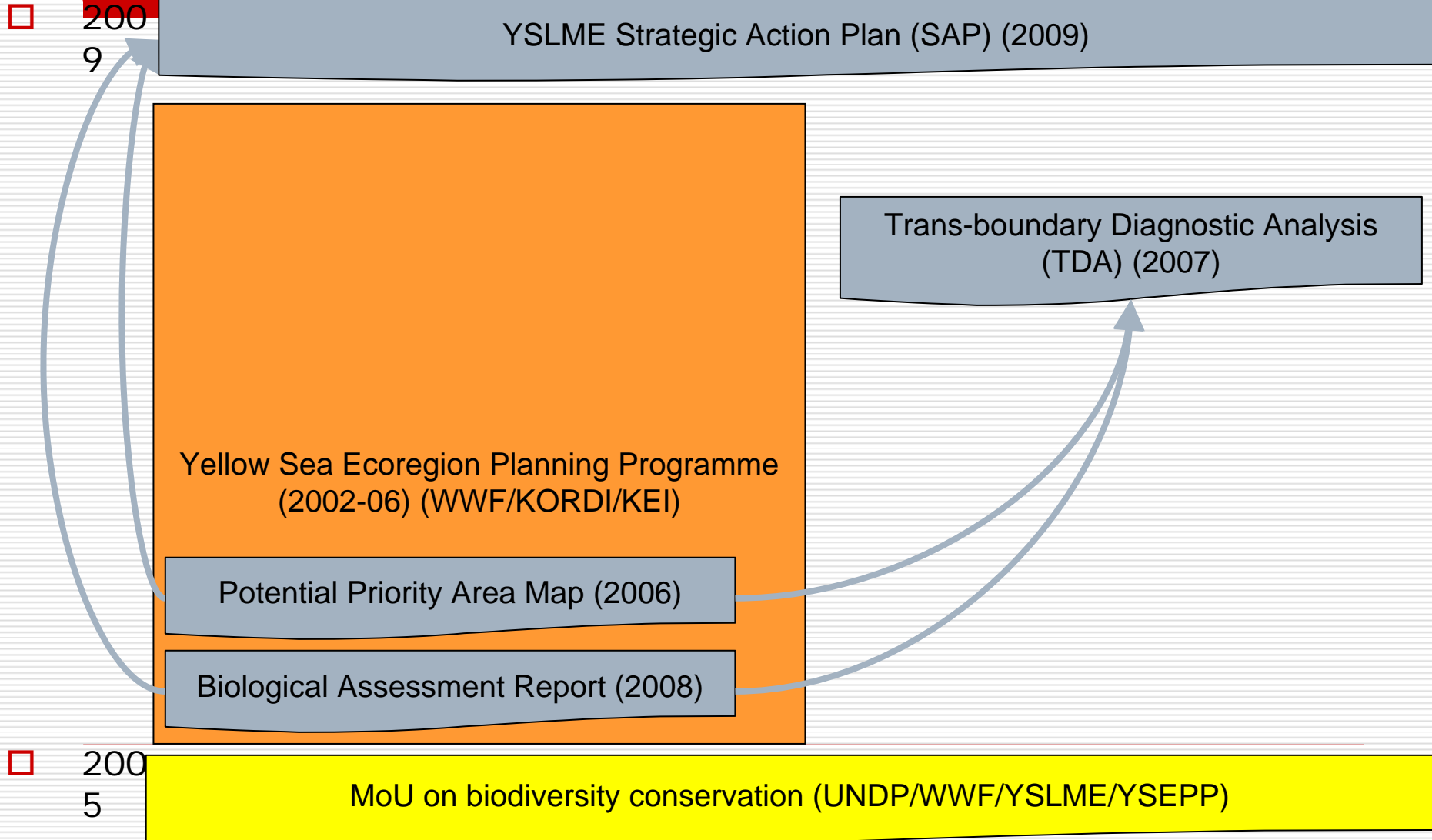
**WWF/KORDI/KEI Yellow Sea Ecoregion Planning Programme (YSEPP)**

Start-End dates: 2002.7 - 2007.3

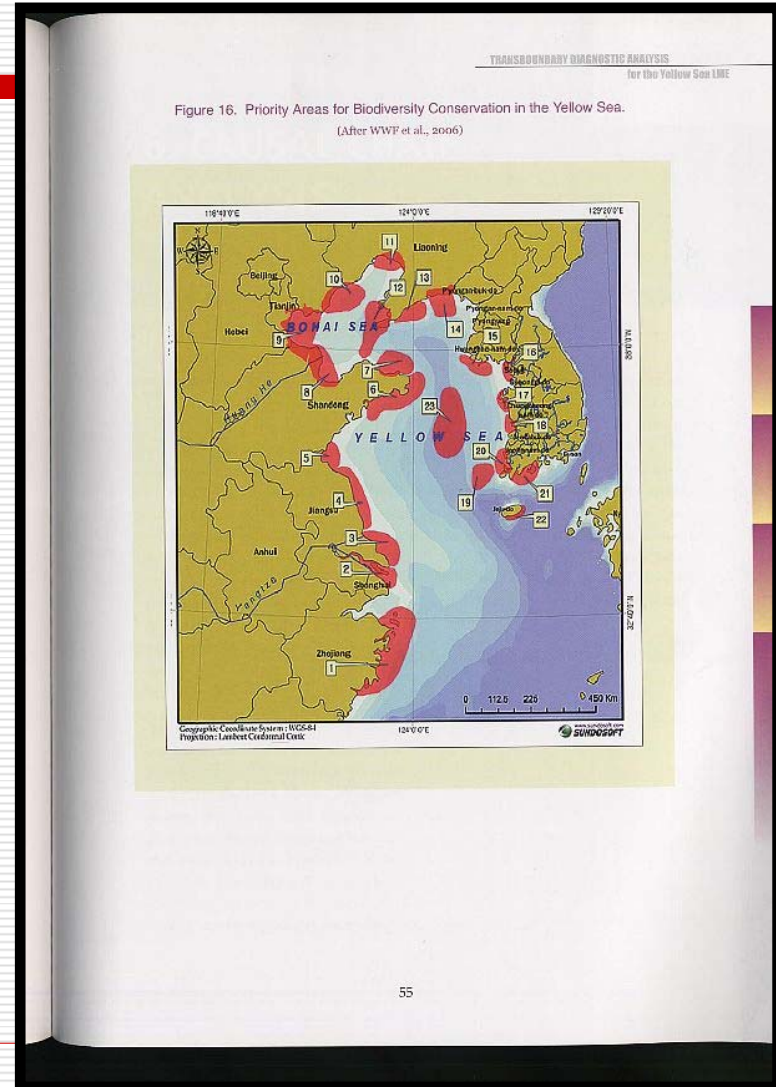
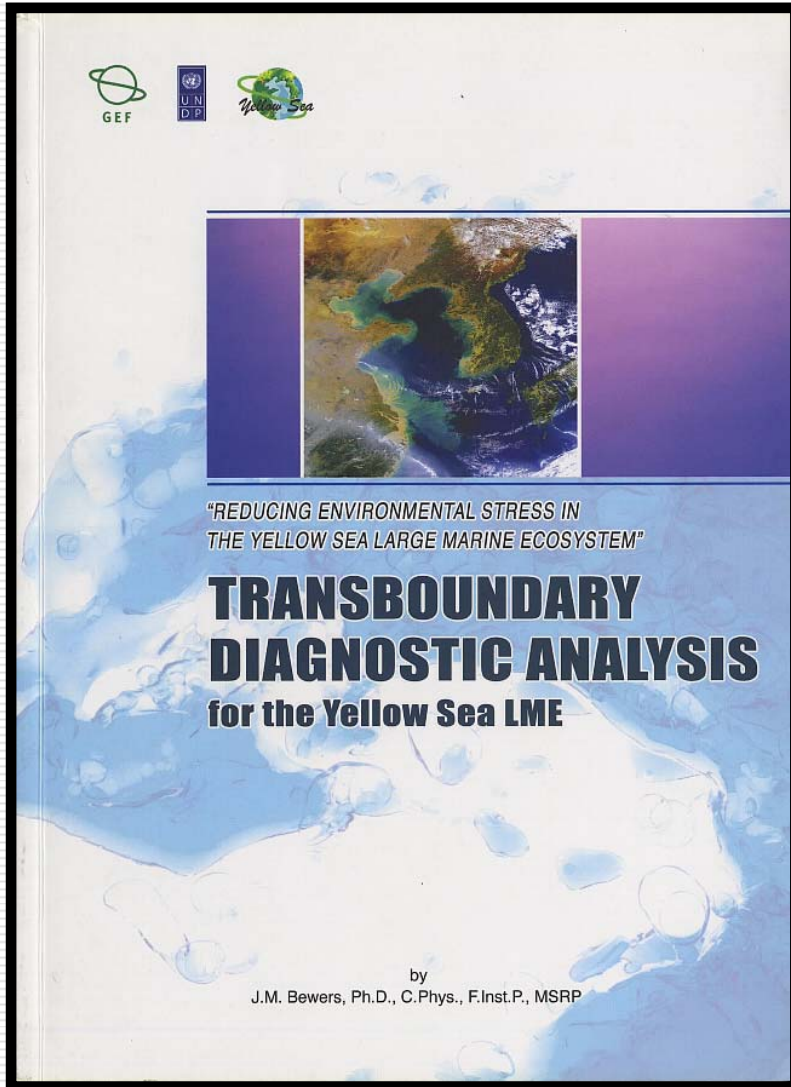
Outputs:  
PPA Map



# Joint planning for a single strategy



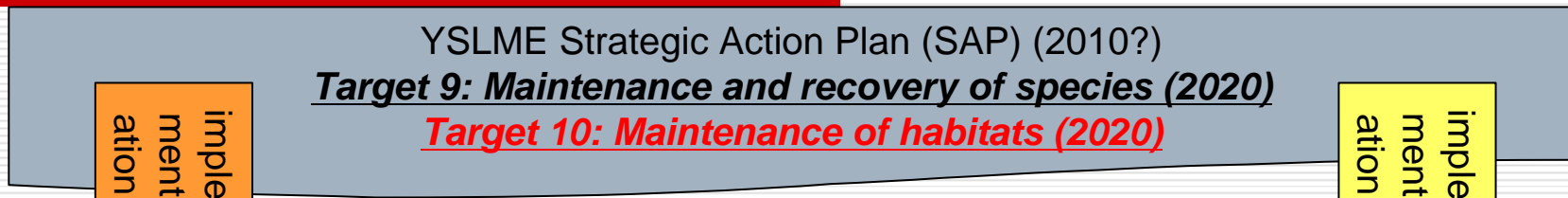
# Joint planning for a single strategy



# Coordinating implementation of SAP



2014



Yellow Sea Ecoregion Support Project (2007-14) (WWF/KORDI/Panasonic)

**2<sup>nd</sup> Stage (2010-2012)**

**Demonstration of adaptive ecosystem-based management of coastal habitat at demo sites (China/Korea)**

**3<sup>rd</sup> Stage (2013-14)**

Documentation and up-scaling of achievements and lessons from demonstration

YSLME Phase 2 (2011-15?) (UNDP/GEF) (China/Korea)

**Target 9:**

Management Action (MA) 9-1: regional conservation plan

**Target 10:**

MA 10-1: guideline for coastal habitat management

**MA 10-2: network of MPAs**

MA 10-3: control new reclamation

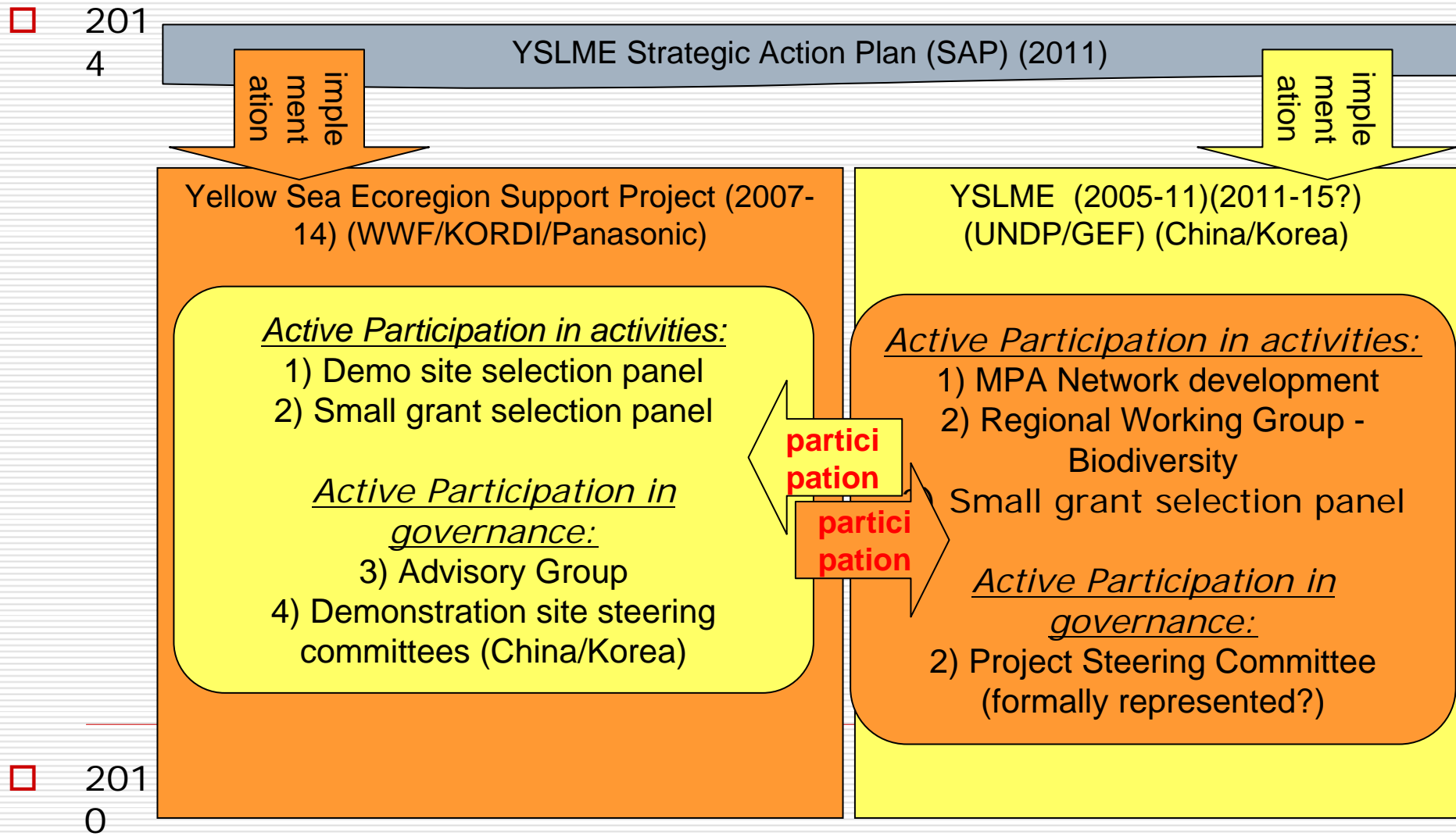
MA 10-4: public awareness on biodiversity benefits



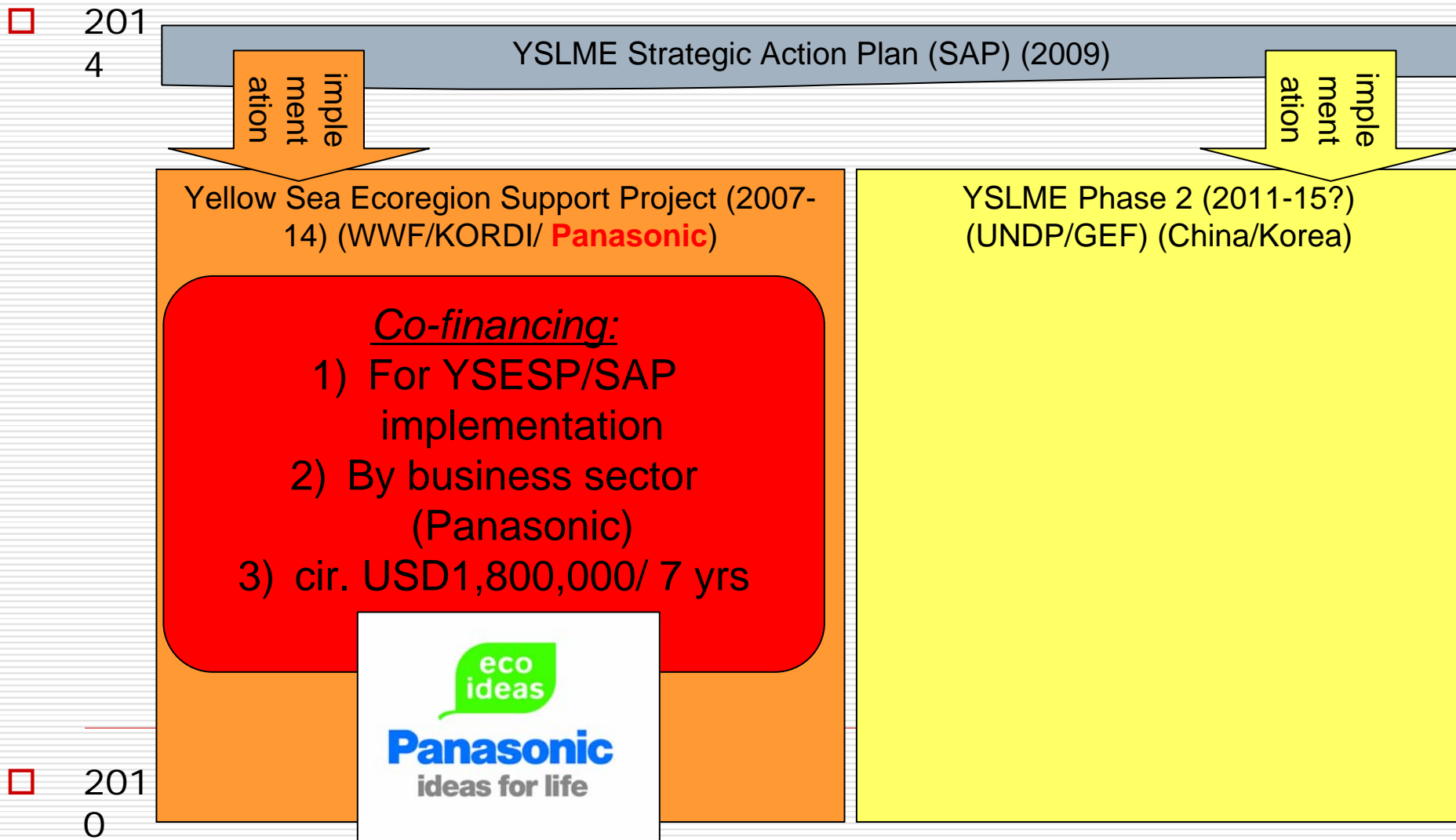
2010



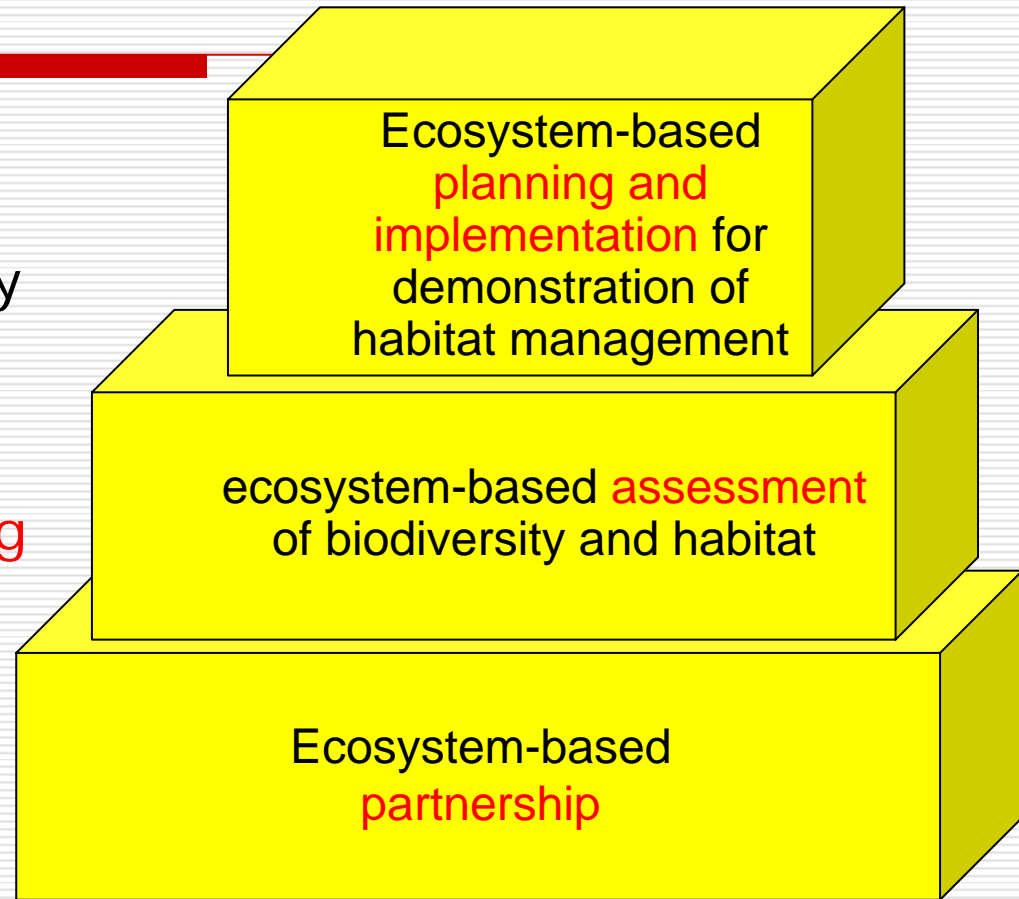
# Cross-participation in both at activities and governance levels



# Co-financing from business sector



# 3 innovative management practices for biodiversity and habitat



- practice 1
- scientific foundation**
  - ecosystem-based **assessment** of biodiversity and habitat
- practice 2
- Policy umbrella**
  - Ecosystem-based **planning and implementation** for demonstration of habitat management
- practice 3
- Mechanism keystone**
  - Ecosystem-based **partnership** for planning and implementation of habitat management