

## 1. Background

Marine biodiversity faces various anthropogenic threats including land-based pollution and eutrophication, destructive fishing, losses of physical habitats, invasion of non-indigenous species, and global climate change (Convention on Biological Diversity, 2008)<sup>1</sup>. Since such threats are commonly found in the NOWPAP Region (NOWPAP, 2010)<sup>2</sup>, NOWPAP developed “Medium-term Strategy 2012-2017<sup>3</sup>” in 2012, which included “regular assessments of the state of the marine environment” and “biodiversity conservation” as major themes. The latter also identifies as one of its objectives the development of Regional Action Plan on Marine and Coastal Biodiversity Conservation.

CEARAC is responsible for coordination of regional activities for assessment of the state of the marine and coastal environment. Based on this responsibility, CEARAC has developed “Procedures for assessment of eutrophication status including evaluation of land-based sources of nutrients for the NOWPAP region (the NOWPAP Common Procedure)” and applied it in some selected case study areas. In addition, CEARAC is currently collecting information on marine biodiversity conservation in selected Marine Protected Areas (MPAs) with a view to exploring the possibility of developing assessment tools for marine biodiversity conservation.

Since the scope of marine biodiversity conservation is huge, CEARAC held a workshop on marine biodiversity conservation and MPAs in March 2013 to explore possible future NOWPAP activities (Annex 1). Based on the recommendations of the workshop, CEARAC developed a draft project proposal on the development of procedures for comprehensive marine environmental assessment for discussion of the Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific Region held in August 2013. The Expert Meeting reviewed the draft proposal and suggested to further clarify the title, scope and tasks with a view to focusing more on the relevance to marine biodiversity conservation. The Expert Meeting also suggested that the proposal should be developed based on the achievements of on-going eutrophication and marine biodiversity projects implemented by CEARAC (Annex 2).

Taking into account various suggestions by the Workshop and Expert Meeting, CEARAC proposes, as a 2014-2015 CEARAC activity, pilot assessment on the impacts of major threats to marine biodiversity in selected sea areas of the NOWPAP region as an initial step toward the development of marine biodiversity assessment tools applicable in the NOWPAP Region.

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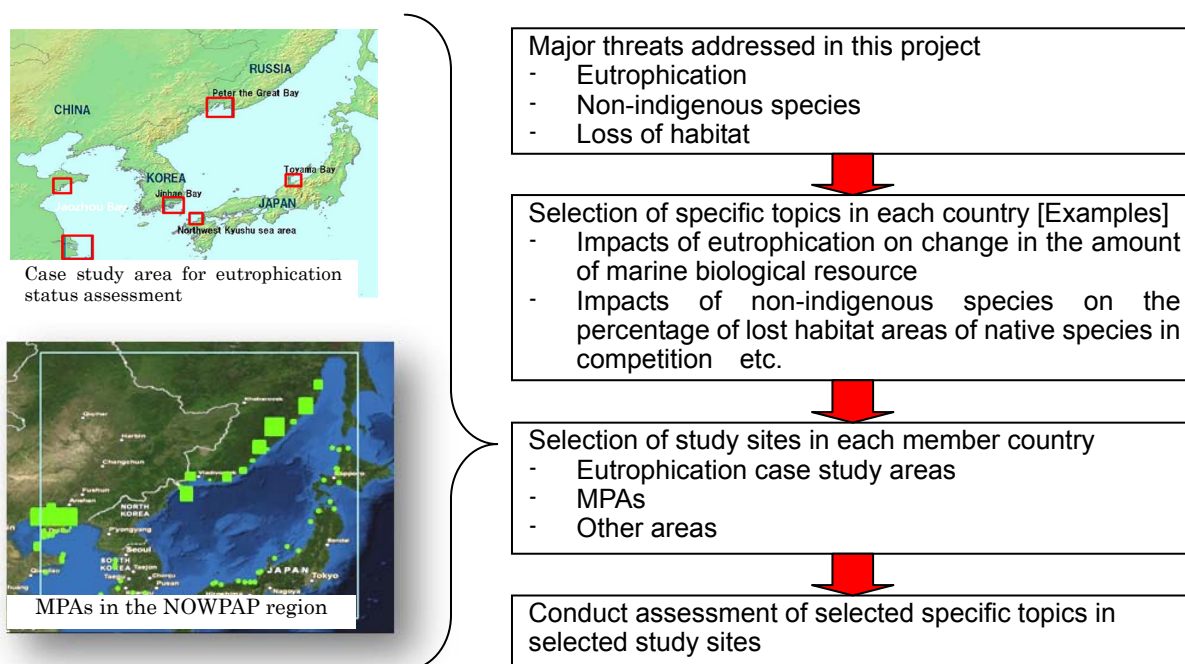
<sup>1</sup> Convention on Biological Diversity (2008): Marine and Coastal Biodiversity

<sup>2</sup> NOWPAP (2010): Threats to Marine and Coastal Biodiversity in the NOWPAP Region

<sup>3</sup> NOWPAP (2012): NOWPAP Medium-term Strategy, 2012-2017

## 2. Objective

The objective of this project is to assess the impacts to marine biodiversity due to threats commonly evident in the NOWPAP Region (eutrophication, non-indigenous species and habitat loss) in selected study sites on a pilot basis in order to identify possible components, data requirements and methodologies for future development of biodiversity assessment tools applicable in the NOWPAP region.



## 3. Tasks

### 3.1 Selection of specific topics and study sites for assessment

For the purpose of pilot assessment, CEARAC FPs will select specific topics (combinations of parameters in terms of threats and their impacts on marine biodiversity) in consultation with relevant authorities and experts to ensure data availability. Each CEARAC FP will be strongly encouraged to address more than two threats as far as data are available in order to ensure the variety of assessment results.

The following listing of parameters for assessing threats and their impacts on marine biodiversity are only indicative, and will be finalized by CEARAC FPs and their nominated experts.

#### 1) Eutrophication:

Indicative parameters for assessing threats:

- Parameters suggested in the NOWPAP Common Procedure

Indicative parameters for assessing impacts on marine biodiversity:

- Change in the composition/loss of plankton, benthic and/or fish species

- Percentage of lost sea grass and seaweed beds
- Change in the scale/amount of marine biological resources

2) Non-indigenous species:

Indicative parameters for assessing threats:

- Name of non-indigenous species and their distribution

Indicative parameters for assessing impacts on marine biodiversity:

- Number of species in competition, predation and subsequent replacement of native species
- Occurrence of hybridization with native species
- Percentage of lost habitat areas of native species

3) Habitat loss:

Indicative parameters for assessing threats:

- Percentage of lost seagrass/seaweed beds
- Percentage of lost wetlands and other habitat areas

Indicative parameters for assessing impacts on marine biodiversity:

- Number of lost species
- Change in the scale/amount of marine biological resources

To assess the selected topics, CEARAC FPs will also select suitable study site(s) with the priority given to the following sea areas;

- 1) On-going eutrophication case study areas
- 2) MPAs selected in the on-going CEARAC marine biodiversity project

The number of topics to be assessed and engaged experts depends on available budget (see 5. Budget).

### **3.2 Implementation of pilot assessment on selected topics**

The experts who are nominated by CEARAC FPs of each member state will collect data and information, and implement pilot assessment on selected topics in the study sites. In assessing the state of eutrophication as a step to assess its impacts to marine biodiversity, the experts will use the results of the eutrophication case studies when the study sites were selected from the case study areas, or they are encouraged to apply the NOWPAP Common Procedure when the study sites were selected from the MPAs and other areas. CEARAC will study methodologies for marine biodiversity assessment used by other international organizations and provide the nominated experts with such reference information upon the commencement of their work.

### 3.3 Organization of workshop

CEARAC will organize a workshop with the experts engaged in this project to review the implications of pilot assessment results as well as to discuss possible components, data requirements and methodologies for future development of marine biodiversity assessment tools applicable in the NOWPAP Region and necessary steps to be taken.

### 3.4 Development of regional report

CEARAC will develop a regional report with the results of pilot assessment mainly based on country assessment reports submitted by the experts and also on the results of discussion at the workshop.

## 4. Schedule

Time	Action	Main Body
2014 Q2	12 <sup>th</sup> CEARAC FPM - Review and approval of the workplan - Selection of topics and study sites	CEARAC FPs and Secretariat
Q2	Contracting MoU with experts who nominated by CEARAC FPs	Expert and Secretariat
2014 Q2- 2015 Q1	Implementation of pilot assessment	Experts of each member state
2015 Q1	Submission of national report on pilot assessment from each member state	Experts
2015 March	Workshop - Review of the results of pilot assessment - Discussion on possible assessment tools	Expert and Secretariat
Q2	Preparation of a regional report	Secretariat
Q3	Expert meeting - Review of the regional report - Discussions on next steps	Experts
Q3	13 <sup>th</sup> CEARAC FPM - Review of report - Discussions on next steps	CEARAC FPs and Secretariat

**5. Budget**

Task	Timing	Output	To be completed	Main body	Budget (US\$)
- Implementation of pilot assessment	2014 Q2- 2015 Q1	- National report on the pilot assessment	2015 Q1	Chinese expert	3,000 (4,500)
				Japanese expert	3,000 (4,500)
				Korean expert	3,000 (4,500)
				Russian expert	3,000 (4,500)
Preparing report on the impacts of major threats to marine biodiversity in the NOWPAP region		Report on the impacts of major threats to marine biodiversity in the NOWPAP region	2015 Q4		2,000
Organization of workshop	2015 Q1	Workshop	2015 Q1	CEARAC	10,000
<b>Total</b>					24,000 (30,000)

(Note) Budget amounts in parentheses represent a Budget C case.

## Major comments at the NOWPAP/NEASPEC Joint Workshop on Marine Biodiversity Conservation and Marine Protected Areas in the Northwest Pacific

1. The Workshop learned prior/ongoing related activities for assessing marine environment for marine biodiversity conservation conducted by PICES, HELCOM and IOC/WESTPAC and recognized the usefulness and necessity of marine environmental assessment especially for conservation of marine biodiversity in the NOWPAP region.
2. The Workshop recognized that the “Procedures for assessment of eutrophication status including evaluation of land-based sources of nutrients for the NOWPAP region” could be a good basis to consider a marine environmental assessment tool for marine biodiversity conservation.
3. The Workshop stressed the necessity of developing the Ecological Quality Objectives for the NOWPAP region as the basis of setting targets for assessment and for appropriate management. The Workshop also noted the necessity of collaborative regional activities toward the conservation of marine biodiversity in the whole NOWPAP region.
4. After the extensive discussion, the Workshop recommended the following:
  - i. CEARAC will assess the availability of data and considers the collection of metadata and development of an assessment tool based on the available data for marine biodiversity conservation in the NOWPAP region.
  - ii. While recognizing that the indicators employed by HELCOM and indicators being studied by PICES are useful references for the NOWPAP region, CEARAC will take into account the availability of data and the different conditions of marine environment in the NOWPAP region when selecting indicators.
  - iii. CEARAC will prepare a workplan for the above-mentioned activities to be further discussed at its Expert Meeting and Focal Points Meeting to be held in 2013.
  - iv. CEARAC will strengthen collaboration with relevant partners, such as PICES, HELCOM and IOC/WESTPAC in conducting these activities.

Annex 2
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## Major comments at the Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific

1. The meeting suggested the Secretariat:
  - (i) to further clarify the title, scope and tasks of the proposed activity and the workplan;
  - (ii) to focus more on the relevance to marine biodiversity conservation;
  - (iii) to consider the possibility of assessment of specific marine biodiversity topics based on the achievements of ongoing eutrophication and biodiversity projects so far, for instance, difference of settlement success of non-indigenous species due to eutrophication and other environmental conditions, and balance between eutrophication and sustainable use of marine resources; and
  - (iv) to consider the selection of feasibility study sites from current/past sites for eutrophication case studies and selected MPAs where necessary data are available.