1 Background

In the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP10) held in 2010, post-2010 targets (Aichi Targets) as well as Decision X/29 (Decision on marine and coastal biodiversity) were agreed. Following the results/decisions of COP10, it is expected that activities on conservation of marine biodiversity will be promoted in international/regional/national levels. Target 11 in Aichi Targets is that “10% of the world sea areas are designated as Marine Protected Areas (MPAs) by 2020.” Following this decision, each NOWPAP member state might be working on selection and establishment of MPAs. To understand the current situation and challenges on monitoring and management of existing MPAs in each NOWPAP member state will be useful for future management of existing MPAs and future designing of new MPAs in the member states.

Decision X/29 promotes to identify ecologically and biologically significant areas (EBSAs) where is precious for marine biodiversity conservation. The concepts of EBSAs by CBD are designed for the high seas and deep seas (Annex I). However information on such important sea areas for marine ecosystem might help conservation of marine biodiversity and sustainable use of marine ecosystem services in the NOWPAP region.

2 Objective

Objective of this activity is to prepare the regional report for conservation of marine biodiversity and sustainable use of marine ecosystem services in the NOWPAP region (Regional Report) in order to provide useful information for policy planning on marine biodiversity conservation of each member state. To contribute to the promotion of marine biodiversity conservation in the NOWPAP region, a workshop will be held to explore a new possibility and concept for conservation of marine biodiversity and sustainable use of marine ecosystem services.

3 Main tasks

3.1 Collecting information on existing MPAs and other related issues in the NOWPAP region

3.1.1 Collecting basic information on MPAs in the NOWPAP region

In order to clarify the definition for designing MPAs in each member state, CEARAC will collect basic information on the existing MPAs in the NOWPAP member states using database on MPA established by NOWPAP DINRAC (Annex II) and other related information sources. (As of February 17, 2012, 278 MPAs are reported in DINRAC’s MPA Database (China: 84, Japan: 99, Korea: 30, Russia: 65)). CEARAC FPs are expected to provide their national definitions on MPAs in each member state, if there are some clear definitions.

CEARAC will also collect information on invasive species, endemic species and endangered

species in the existing MPAs using DINRAC database and other sources such as past outputs of NOWPAP activities and other organizations in order to explore the capability of a new concept for marine biodiversity conservation among the member states.

3.1.2 Collecting information on monitoring and management in selected MPAs in the member states

Based on information of 3.1.1, CEARAC FPs will select several MPAs. Experts of each member state who are nominated by CEARAC FPs will collect detailed information of selected MPAs by each member state. Experts are expected to collect the following information;

- Hydrographic condition around the selected MPAs
- Ecological characteristics of the selected MPAs
- Presence or absence of regular monitoring in the selected MPAs (including monitoring organizations and monitoring parameters)
- Presence or absence of the management plan in the selected MPAs (including management organizations, targets of management)
- Presence or absence of specific protected species in the selected MPAs and their conditions

3.2 Analysis on the status of MPAs in the NOWPAP region

3.2.1 Analysis on the status of MPAs in the NOWPAP region

Based on the collected information in activity 3.1.1, CEARAC will analyze the status of MPAs in the NOWPAP region.

- Definitions of MPA in each member state
- Current status of MPAs in the NOWPAP region (areas of MPAs in the NOWPAP region, the rate of MPA against the NOWPAP region etc.)
- Protected species in MPAs in the NOWPAP region

3.2.2 Analysis on the status of monitoring and management in the selected MPAs

Based on the collected information in activity 3.1.2, each expert will analyze the status of monitoring and management condition in the selected MPAs.

Experts are expected to summarize following situation in the selected MPAs

- Hydrographic condition around the selected MPAs
- Ecological characteristic in the selected MPAs
- Implementation status of monitoring in the selected MPAs
- Management status on the environment and marine species in the selected MPAs
- Situation of protected species in the selected MPAs

3.3 Organization of a workshop for discussing possibility of applying other concept for marine biodiversity conservation

To increase sea areas where conservation measures and management are applied in the NOWPAP region in the future, application of new concept/criteria of sea areas, in addition to MPA, would be required. Since EBSAs and MPA Network are additional potential concepts for conserving marine biodiversity, CEARAC will hold a workshop to discuss the possibility for application of a new concept to sea areas for marine biodiversity conservation and sustainable use of marine ecosystem services in the NOWPAP region. To discuss the new concepts, criteria on CBD EBSAs, MPA network and other ideas in each member state will be reviewed.

In addition to a new concept for marine biodiversity conservation, the workshop will be expected to discuss the possibility of self-assessment on management effectiveness in MPAs in the NOWPAP region.

3.4 Preparation of regional report

CEARAC will prepare the regional report summarizing outputs of above activities in order to provide useful Information for policy planning of each member state. The draft table of contents of the report is shown in Table 1.

4 Expected outcomes and future direction

The regional report is expected to be used by policy makers of each member state. In addition to understanding the current situation of existing MPAs in the NOWPAP region, the new direction and/or other possibilities for marine biodiversity conservation will enhance the status of the conserved sea areas and will promote more effective management of them in the future.

In the near future, it is expected to select common indicators for assessing the marine environment in terms of marine biodiversity conservation through understanding the monitoring situation and specific protected species in the NOWPAP region,

5 Potential partners

In order to collect information on existing MPAs in the NOWPAP member states, CEARAC will utilize the database on MPAs in the NOWPAP region established by NOWPAP DINRAC. The collected information will help select common indicators to understand the marine environmental status in the NOWPAP region. The outputs will be shared with PICES Working Group-28 on Development of Ecosystem Indicators to Characterize Ecosystem to Multiple Stressors.

To discuss a new concept and possibilities for marine biodiversity conservation, activities

implemented by other organizations will be referred. OSPAR is one of potential partners because they have selected EBSAs in their region and started self-assessment on the management effectiveness in MPAs.

6 Schedule

The proposed schedule is as follows.

Time		Actions	Main body
2012	Q1 to Q2	- Collecting information on MPAs in the NOWPAP region - Collecting information on specific issues on marine biodiversity conservation	- CEARAC - CEARAC
	Q2 (10th CEARAC FPM)	- Approval of workplan and budget by CEARAC FPM - Nomination of experts - Introduction of definitions of MPA in each member state	- CEARAC - CEARAC FPs - CEARAC FPs
	Q2	- Selecting target MPAs	- CEARAC FPs
	Q2 to Q3	- Collecting information on monitoring and management in the selected MPAs	- Experts
	Q4 to 2013 Q1	- Analyzing the status of MPAs - Analyzing the monitoring and management status in the selected MPAs	- CEARAC - Experts
	Q4 or 2013 Q1 (Workshop)	- Discussing possibility of applying other concepts for marine biodiversity conservation and sustainable use of marine ecosystem services	- CEARAC and Experts
2013	Q2 to Q3	- Preparing a draft regional report	- CEARAC
	Q3	- Review of the draft regional report	- CEARAC and FPs/Experts
	Q3	- Review of the revised regional report	-NOWPAP National FPs
	Q4	- Publication of the regional report	- CEARAC

7 Budget

Contract	Timing	Output	To be completed	Counterpart	Budget (US$)
Collecting information and analyzing the monitoring and management status in the selected MPAs	2012 Q2	- Collected data and information - Report on monitoring and management of the selected MPAs	2013 Q1	Expert in China	2,000
				CEARAC	In-kind
				Expert in Korea	2,000
				Expert in Russia	2,000
Organizing a Workshop	2012 Q4 or 2013 Q1	New concept for marine biodiversity conservation and sustainable use of marine ecosystem for the NOWPAP region		CEARAC and Expert of each member state	10,000
Preparing the regional report	2013 Q4	Regional report		CEARAC	4,000
Total					20,000

Table 1 Draft table of contents of the regional report

1. Introduction

Background of this report, regional overview of the NOWPAP region

2. Regional overview on existing MPAs in the NOWPAP region

2-1 Situation of existing MPAs in the NOWPAP region

2-2 Criteria of MPA in the NOWPAP member states

2-3 Purposes of MPAs in the NOWPAP member states

3. Monitoring and management status in the selected MPAs in the NOWPAP region

3-1 Oceanic condition around the selected MPAs

3-2 Monitoring status of the marine environment and marine species in the selected MPAs

3-3 Management status of the marine environment and marine species in the selected MPAs

3-4 Situation of protected species in the selected MPAs

4. New concept for marine biodiversity conservation and sustainable use of marine ecosystem services

4-1 Possibility on applying ecologically and biologically significant sea areas (EBSAs) to the NOWPAP region

4-2 Possibility on establishing MPA Network for marine biodiversity conservation in the NOWPAP region

4-3 Possibility of self-assessment on the management effectiveness in MPAs in the NOWPAP region

5. Conclusion

Annex 1

Definition of Marine Protected Area (MPA)

Marine Protected Areas (MPAs) were defined at the CBD COP7 held in 2004;

"Marine and coastal protected area" means any defined area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection that is surroundings.

In a similar way, International Union for Conservation of Nature (IUCN) defined MPA as "Any area of intertidal or sub-tidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment". IUCN also set management categories to classify protected areas according to their management objectives. The categories are as follows;

Protected Area Categories		Management Objectives
Ia	Strict nature reserve	Strict protection
Ib	Wildness area	Strict protection
II	National park	Ecosystem conservation and protection
III	Natural monument of feature	Conservation of natural features
IV	Habitat/species management area	Conservation through active management
V	Protected landscape/seascape	Landscape/seascape conservation and recreation
VI	Protected area with sustainable use of natural resources	Sustainable use of natural resources

EBSA Criteria（COP9 Decision IX/20: Marine and coastal biodiversity Annex I）

Criteria	Definition	Rationale	Examples	Consideration in application
Uniqueness or rarity	Area contains either (i) unique ("the only one of its kind"), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct, habitats or ecosystems; and/or (iii) unique or unusual geomorphological or oceanographic features	- Irreplaceable - Loss would mean the probable permanent disappearance of diversity or a feature, or reduction of the diversity at any level.	*Open ocean waters* Sargasso Sea, Taylor column, persistent polynyas. *Deepsea habitats* endemic communities around submerged atolls; hydrothermal vents; sea mounts; pseudo-abyssal depression	- Risk of biased-view of the perceived uniqueness depending on the information availability - Scale dependency of features such that unique features at one scale may be typical at another, thus a global and regional perspective must be taken
Special importance for lifehistory stages of species	Areas that are required for a population to survive and thrive.	Various biotic and abiotic conditions coupled with species-specific physiological constraints and preferences tend to make some parts of marine regions more suitable to particular life-stages and functions than other parts.	Area containing: (i) breeding grounds, spawning areas, nursery areas, juvenile habitat or other areas important for life history stages of species; or (ii) habitats of migratory species (feeding, wintering or resting areas, breeding, moulting, migratory routes).	- Connectivity between life-history stages and linkages between areas: trophic interactions, physical transport, physical oceanography, life history of species - Sources for information include: e.g. remote sensing, satellite tracking, historical catch and by-catch data, vessel monitoring system (VMS) data. - Spatial and temporal distribution and/or aggregation of the species.
Importance for threatened, endangered or declining species and/or habitats	Area containing habitat for the survival and recovery of endangered, threatened, declining species or area with significant assemblages of such species.	To ensure the restoration and recovery of such species and habitats.	Areas critical for threatened, endangered or declining species and/or habitats, containing (i) breeding grounds, spawning areas, nursery areas, juvenile habitat or other areas important for life history stages of species; or (ii) habitats of migratory species (feeding, wintering or resting areas, breeding, moulting, migratory routes).	- Includes species with very large geographic ranges. - In many cases recovery will require reestablishment of the species in areas of its historic range. - Sources for information include: e.g. remote sensing, satellite tracking, historical catch and by-catch data, vessel monitoring system (VMS) data.
Vulnerability, fragility,sensitivity, or slow recovery	Areas that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery.	The criteria indicate the degree of risk that will be incurred if human activities or natural events in the area or component cannot be managed effectively, or are pursued at an unsustainable rate.	*Vulnerability of species* - Inferred from the history of how species or populations in other similar areas responded to perturbations. - Species of low fecundity, slow growth, long time to sexual maturity, longevity (e.g. sharks, etc). - Species with structures providing biogenic habitats, such as deepwater corals, sponges and bryozoans; deep-water species. *Vulnerability of habitats* - Ice-covered areas susceptible to ship-based pollution.	- Interactions between vulnerability to human impacts and natural events - Existing definition emphasizes site specific ideas and requires consideration for highly mobile species - Criteria can be used both in its own right and in conjunction with other criteria.

			- Ocean acidification can make deepsea habitats more vulnerable to others, and increase susceptibility to humaninduced changes.	
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.	Important role in fuelling ecosystems and increasing the growth rates of organisms and their capacity for reproduction	- Frontal areas - Upwellings - Hydrothermal vents - Seamounts polynyas	- Can be measured as the rate of growth of marine organisms and their populations, either through the fixation of inorganic carbon by photosynthesis, chemosynthesis, or through the ingestion of prey, dissolved organic matter or particulate organic matter - Can be inferred from remote-sensed products, e.g., ocean colour or process-based models - Time-series fisheries data can be used, but caution is required
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.	Important for evolution and maintaining the resilience of marine species and ecosystems	- Sea-mounts - Fronts and convergence zones - Cold coral communities - Deep-water sponge communities	- Diversity needs to be seen in relation to the surrounding environment - Diversity indices are indifferent to species substitutions - Diversity indices are indifferent to which species may be contributing to the value of the index, and hence would not pick up areas important to species of special concern, such as endangered species - Can be inferred from habitat heterogeneity or diversity as a surrogate for species diversity in areas where biodiversity has not been sampled intensively.
Naturalness	Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation.	- To protect areas with near natural structure, processes and functions - To maintain these areas as reference sites - To safeguard and enhance ecosystem resilience	Most ecosystems and habitats have examples with varying levels of naturalness, and the intent is that the more natural examples should be selected.	- Priority should be given to areas having a low level of disturbance relative to their surroundings - In areas where no natural areas remain, areas that have successfully recovered, including reestablishment of species, should be considered. - Criteria can be used both in their own right and in conjunction with other criteria.

Annex II

Data collection format by using DINRAC's database
of coastal and marine protected areas in the NOWPAP region

Annex III:

Data Collection Form for the Database of Marine Protected Areas in the NOWPAP region

1. Basic Information			
1	**Country***	☐ China ☐ Japan ☐ Korea ☐ Russia	
2	**Title of the MPA**		
3	**Brief Description**	Time of Establishment: yyyy-mm-dd History, activities and events etc.:	
4	**Location of the MPA**	county, city, province	
5	**Longitude/latitude*** (This will be crucial for the GIS visualization of the MPAs)	☐ Landmark ☐ Center Point ° ' " E , ° ' " N	Bundary ° ' " --- ° ' " E ° ' " --- ° ' " N
6	**Occupied Land/Sea Area***	ha	
7	**Altitude**	Min m	Max m
8	**Climate**	☐ Temperate monsoon climate ☐ Subtropical monsoon climate	
9	**Level of the MPA***	☐ State ☐ Province ☐ City/County	
10	**International Designation**	☐ UNESCO-MAB Biosphere reserve ☐ Wetlands of International Importance (Ramsar List) ☐ World Heritage ☐ Others ( )	
11	**Category of the MPA***	Category in your country (List all categories of MPA in detail in your country and select one that this MPA belongs to): ☐ ☐ ☐ Category by IUCN ☐ Ia Strict Nature Reserve ☐ Ib Wilderness Area ☐ II National Park ☐ III Natural Monument ☐ IV Habitat/Species Management Area ☐ V Protected Landscape/Seascape ☐ VI Managed Resource Protected Area	

12	**Supervising Authority of the MPA**	(Such as Ministry of Environment, Ministry of Forestry, Ministry of Natural Resources, etc)	
13	**Main Purposes*** 1=Important 2=Normal 3=Not Important	Protect Ecosystem	
		a. Protect habitat	☐1 ☐2 ☐3
		b. Protect biodiversity	☐1 ☐2 ☐3
		c. Protect ecological process	☐1 ☐2 ☐3
		d. Protect high quality food area	☐1 ☐2 ☐3
		e. Prevent irresponsible exploitation	☐1 ☐2 ☐3
		f. Provide integrated measures for eco-system management	☐1 ☐2 ☐3
		Increase Non-consumption Opportunities	
		a. Promote multiple social activities	☐1 ☐2 ☐3
		b. Increase recreational activities without consuming natural resources	☐1 ☐2 ☐3
		c. Create opportunities for field experiences	☐1 ☐2 ☐3
		d. Increase education opportunities	☐1 ☐2 ☐3
		e. Promote eco-tourism	☐1 ☐2 ☐3
		f. Improve the public's environmental awareness	☐1 ☐2 ☐3
		g. Increase sustainable employment	☐1 ☐2 ☐3
		Promote Fishery	
		a. Protect overfished species	☐1 ☐2 ☐3
		b. Restore fish resources	☐1 ☐2 ☐3
		c. Reduce the catch of non-targeted species and accidental death of fishes	☐1 ☐2 ☐3
		d. Reduce conflicts among resource users	☐1 ☐2 ☐3
		e. Increase the rate of reproduction	☐1 ☐2 ☐3
		f. Support hunting fishery	☐1 ☐2 ☐3
		g. Avoid selective fishing	☐1 ☐2 ☐3
		h. Improve the understanding of management	☐1 ☐2 ☐3
		Increase Knowledge about the Marine System	
		a. Increase knowledge of the eco-system	☐1 ☐2 ☐3
		b. Provide long-term monitoring sites not disturbed by human activities	☐1 ☐2 ☐3
		c. Provide continuous knowledge on undisturbed sites	☐1 ☐2 ☐3
		d. Reduce the risk of long-term experiment	☐1 ☐2 ☐3
		e. Provide research sites	☐1 ☐2 ☐3
		f. Provide research focuses	☐1 ☐2 ☐3
		g. Provide natural reference for researches on influence of fishery and other human activities	☐1 ☐2 ☐3
		h. Provide natural site for education	☐1 ☐2 ☐3
14	**Species**	Main Protected Species	
		Endangered Species	
2. Management Body of the MPA			

15	Name	
	Address	
	Telephone	
	URL	
	E-mail	
	Staff Number	

Questionnaire completed by	Information collected from	Date of filling the form
	☐ Internet/literature ☐ Supervising Authority ☐ Management Body	2011-04-05