

Northwest Pacific Action Plan **Regional Seas**

UNEP

Report on NOWPAP implementation

NOWPAP RCU

10th CEARAC FPM, 17-18 April 2012, Toyama, Japan

Northwest Pacific Action Plan **Regional Seas**

DINRAC

DINRAC is maintaining the following databases (available at the DINRAC website):

- **NOWPAP Institutions and NOWPAP Experts**
- **NOWPAP Coastal and Marine Environmental Geographic Information Systems (GIS) and Remote Sensing (RS) applications**
- **Marine Litter**
- **Coastal and Marine Nature Reserves**

Reference Databases have been also established and maintained:

- **Atmospheric Deposition (AD)** of contaminants
- **River and Direct Inputs (RDI)** of contaminants
- **Integrated Coastal and River Basin Management (ICARM)**

In October 2011, a proposal on a **regional workshop on MIS problems in the NWP region** had been submitted to CAPaBLE program of the Asia Pacific Network for Global Change Research (APN).

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MERRAC

MERRAC is maintaining the following databases (available at the DINRAC website):

- **List of oil spill response equipment, institutions and experts**
- **List of oil and HNS spill accidents over 10 tons**

The 16th NOWPAP IGM approved MERRAC workplan and budget for the 2012-2013 biennium, including the following main activities:

- **Expert meeting** to be hosted by China on technical issues regarding the marine pollution preparedness and response
- **NOWPAP Exercises (BRAVO, DELTA)** to enhance regional capacity on marine pollution and preparedness and response
- Implementing **specific projects** including
 1. **Legislation and practice** on marine pollution damage civil liability and compensation
 2. **Environmental issues** related to oil spill incidents
 3. **Development of the practical assistance procedure and system** under the NOWPAP RCP
- Activities related to **marine litter** (under NOWPAP RAP MALI)

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POMRAC

The 16th NOWPAP IGM approved POMRAC workplan and budget for the 2012-2013 biennium, including the following main activities:

- Preparation of the regional overview "**PTS and POPs issues of ecological concern**"
- Preparation of the regional overview "**Applications of ecosystem valuation, marine spatial planning and ecosystem-based management**"
- Preparation of "**Regional guidelines for integrated coastal planning and management**"
- Preparation of the second "**State of Marine Environment Report**" for the NOWPAP region (with focus on socio-economic issues, climate change and biodiversity)
- Activities related to **marine litter** (under NOWPAP RAP MALI)
- **The regional workshop on PTS and POPs issues** will be held in Kanazawa, Japan on April 2012

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NOWPAP RAP MALI

In December 2011, the NOWPAP RAP MALI work plan for 2012-2013 was approved at the 16th IGM. The following activities were implemented:

- DINRAC has continuously **updated its marine litter (ML) database** with monitoring results and all national ML monitoring data and related information are available at the DINRAC website
- MERRAC has continued to collect **case studies on the negative impacts of ML** occurred in the NOWPAP member states" (to be published in 2012)
- **News and information related to marine litter** have been posted and updated on the NOWPAP homepage by NOWPAP RCU, shared by e-mail with NOWPAP RACs and Marine Litter Focal Points (ML FPs)
- In December 2011, the **regional overview on ML** in the NOWPAP region was updated with information provided by ML FPs and published
- **2011 NOWPAP ICC** was held in **Lianyungang, China** and **2012 NOWPAP ICC** is expected to be held in **Vladivostok, Russia**

Lianyungang, China, 2011

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Public awareness


According to NOWPAP Public Awareness Strategy, the following actions were taken by NOWPAP RCU and RACs:

- NOWPAP homepage and RAC homepages have been **maintained and constantly updated**. News and information have been posted on the NOWPAP homepage in five languages (English, Chinese, Japanese, Korean and Russian) since 2006
- News about NOWPAP implementation were **regularly posted at the partners' websites and introduced in their electronic newsletters** (e.g., COBSEA, PEMSEA, WESTPAC, YSLME)
- **Electronic newsletter (NOWPAP Quarterly)** has been distributed by NOWPAP RCU through emails to member states and partners (since 2008)
- Information about NOWPAP activities was **introduced to UNEP Headquarters (HQ), UNEP ROAP and GPA websites** (and is currently available there)

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Public awareness



- Several brochures, leaflets, posters about NOWPAP activities were prepared and widely distributed
- While attending global and regional meetings (e.g., UN Regular Process Workshop for Eastern and South-eastern Asian Seas countries; PICES Annual Meetings, etc.) as well as local events, RACs and RCU staff contributed to increasing NOWPAP visibility and attracting public attention by introducing the NOWPAP activities
- RACs and RCU staff also contributed articles to magazines, newspapers and newsletters, and delivered lectures/presentations at a local level
- For the 2012 Expo to be held in Yeosu, Korea, NOWPAP RCU (together with MERRAC) are working closely with subcontractors and UNEP headquarters preparing NOWPAP exhibition under the Ocean and Coast Best Practice Area (OCBPA)


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Partnerships

NOWPAP RCU and RACs staff have continued actively developing partnerships with many relevant organizations, programmes and projects in the region:

- Coordinating Body for the Seas of East Asia (COBSEA)
- GEF/UNDP/IMO Regional Programme on Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)
- North Pacific Marine Science Organization (PICES)
- UNESCO/IOC Sub-Commission for the Western Pacific (WESTPAC)
- UNDP/GEF Project on the Yellow Sea Large Marine Ecosystem (YSLME)



NOWPAP partners were involved in co-organizing numerous events, which improved sharing of information, coordination of related activities and raising public awareness.

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Partnerships

Within the UN system, NOWPAP maintained good relationships with several important partners:

- UNEP Regional Office for Asia and the Pacific (ROAP)
- UNEP Regional Seas Programme
- Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-Based Activities
- IOC/WESTPAC
- IMO

NOWPAP has joined the **Global Partnership on Waste Management (GPWM)** which is being developed by the International Environmental Technology Center of UNEP Division of Technology, Industry and Economics (DTIE-IETC).




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Major resolutions agreed at IGM-16

- Acknowledging that contribution from the Russia in the amount of USD 125,000 for 2011 was received, the meeting encouraged the member states, RCU and RACs, to make utmost efforts to seek additional funding sources
- Requested member states to carry out activities to prevent, monitor and remove ML at a national and local level through implementation of NOWPAP RAP MALI as scheduled
- Requested member states and RACs to provide suggestions for the NOWPAP Medium-term Strategy 2012-2017, which was adopted in principle
- Agreed that the Korean Government will revise a discussion paper on possible measures addressing future financial situation of NOWPAP and circulate among member states for their comments and suggestions before presenting it at the 17th IGM

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Thank you!

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Report on the implementation and the expenditure of CEARAC activities for the 2010-2011 biennium

April 2012

CEARAC activities planned for 2010-2011

Activity	
Meetings	2 annual FPMs with Expert Meetings
Web Maintenance	WG3: Updating HAB Integrated website and Developing <i>Cochlodinium</i> HP in 4 NOWPAP languages WG4: Updating Ocean RS Portal Site and website on RS educational materials
<Projects>	
- Biodiversity	Developing a new assessment method focusing on marine BD
- WG3/4 Joint	Implementing eutrophication assessment
- WG3	Updating Integrated Report on HAB
- WG4	Updating Integrated Report on RS and Organizing 3 rd RS training
Cooperation/Coordination	Participating in and/or jointly organizing meetings, workshops, etc.
Newsletter	Annual publication
RAP MALI	Revising ML guidelines for tourists and tour operators Updating pamphlet on the current situation on ML Compiling monitoring data on beaches and submit to DINRAC Providing information on best practices to reduce ML generation

Outcomes

1. Meetings

- ◆ **8th CEARAC FPM (13&15 September 2010)**
 - report for 2008-2009 and review of progress for 2010
- ◆ **Expert Meeting on assessment of eutrophication status and marine environment focusing on marine biodiversity (14 Sep.)**
 - Reports on interim results of eutrophication assessment in the selected sea areas
 - Introduction of a pilot study in Toyama Bay for development of a new marine environmental assessment method
 - Discussion on availability of data and applicability of the proposed assessment method

◆ Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific Region (4-5 August 2011, sponsored by NPEC)

- Experts on marine biodiversity and eutrophication of NOWPAP members, HELCOM, PICES and NOAA
- Presentations on conservation of the marine environment/ecosystems and eutrophication assessment using the NOWPAP Common Procedure
- Discussion on potential CEARAC activities for 2012-2013 and beyond

◆ 9th FPM (6-7 September, 2011)

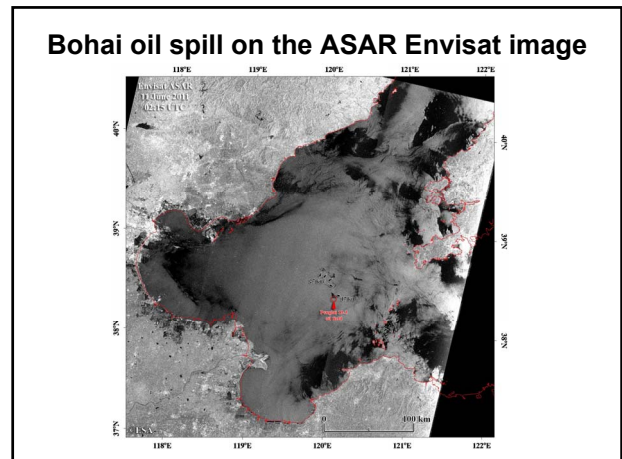
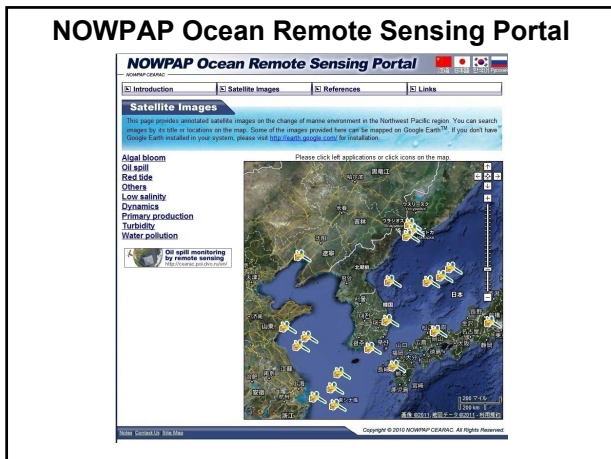
- Report on CEARAC activities for 2010-2011
- 3 draft Integrated Reports (HAB, RS, eutrophication)
- Draft workplans for 2012-2013 with 2 budget options

2. Website Maintenance

- **HAB Case Study Database**
 - updated with latest information
- **HAB Reference Database**
 - added information on papers published in 2006-08
- ***Cochlodinium* Homepage**
 - added NOWPAP language pages (Chinese, Korean and Russian)
- **Ocean Remote Sensing Portal Site**
 - combined Portal site on ocean remote sensing and Education materials
- **Website on oil spill monitoring by RS**
 - uploaded satellite images analyzed by POI FEB RAS

CEARAC websites

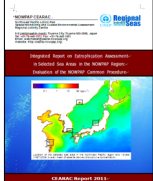





3. Specific Projects

- ◆ **Marine Biodiversity: Development of a new marine assessment method focusing on marine biodiversity (in-kind support by NPEC)**
 - conducted a pilot study in Toyama Bay in 2010 and developed a new methodology for assessing coastal environment focusing on marine biodiversity
 - reviewed by FPs: due to limited data/information, available common indicators are required
 - decided to search appropriate indicators by collaboration with PICES WG28 (development of ecosystem indicators to characterize ecosystem responses to multiple stressors)

- ◆ **Joint WG3/4: Implementation of the assessment of eutrophication status by the NOWPAP member states**
 - Eutrophication assessment in the selected sea areas
 - Changjiang River Estuary and adjacent area (China)
 - Northwest Kyushu sea area, Toyama Bay (Japan)
 - Jinhae Bay (Korea)
 - Peter the Great Bay (Russia)
 - First Integrated Report to assess the eutrophication status by the NOWPAP member states with a common method




- ◆ **WG3: Updating the Integrated Report on HABs for the NOWPAP Region**
 - Revised the 1st version (2005) by adding information on updated HAB Case Study Reports and HAB occurrence data submitted to CEARAC



- ◆ **WG4 (1): Updating the Integrated Report on Ocean Remote Sensing for the NOWPAP Region**
 - Revised the 1st version (2005) by adding recent information on ocean remote sensing for the past 5 years

Contents

- New sensors and satellites
- Newly developed algorithms
- New scientific findings
- Data availability
- Suggestions for NOWPAP region



◆ **WG4 (2): NOWPAP/PICES/WESTPAC Joint Training Course on Remote Sensing Data Analysis**

(8-12 Oct. 2011, Far Eastern Federal University in Vladivostok)
- 22 selected trainees (NOWPAP states, India, Indonesia and the Philippines) out of 58 applicants



4. Cooperation and Coordination

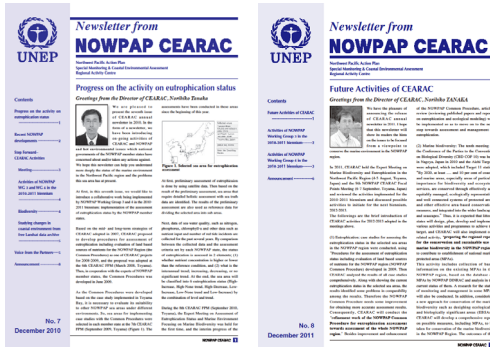
1. FY2010

- 2nd Yellow Sea Regional Science Conference (Feb. Xiamen, China)
- 2010 NOWPAP ICC and Workshop on ML Management (Mar. Hirado, Japan)
- 13th NEAR-GOOS Coordinating Committee Meeting (Apr. Vladivostok, Russia)
- Int'l Symposium – Climate Change Effects on Fish and Fisheries (Apr. Sendai, Japan)
- 8th Intergovernmental Session IOC Sub-Commission (May, Bali, Indonesia)
- 8th POMRAC FPM (May, Busan, Korea)
- 13th MERRAC FPM (June, Taejeon, Korea)
- 2010 NOWPAP ICC (Oct. Jeju, Korea)
- Marine Biodiversity Forum in the Northwest Pacific Region (Oct. Toyama, Japan)
- CBD COP 10 Side-event (Oct. Nagoya-Aichi, Japan)
- PICES 2010 Annual Meeting (Oct. Portland, U.S.A.)
- 2nd Int'l Conference on Global Change and the Environment in Asia and Pacific (GCEAP): Inland Waters and Coastal Environment (Oct. Hong Kong, China)
- 15th NOWPAP IGM (Nov. Moscow, Russia)

2. FY2011

- 2011 PICES FUTURE Workshop (Apr. Hawaii, U.S.A.)
- 9th DINRAC FPM (Apr. Hangzhou, China)
- 14th MERRAC FPM & 6th Competent National Authorities Meeting (Jun. Daejeon, Korea)
- Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific Region (Aug. Toyama, Japan)
- NOWPAP ML Workshop and ICC (Sep. Lianyungang, China)
- PICES 2011 Annual Meeting and Session W2: RS techniques for HAB detection and monitoring (Oct. Khabarovsk, Russia)
- 9th POMRAC FPM (Oct. Khabarovsk, Russia)
- 16th NOWPAP IGM (Dec. Beijing, China)

5. Newsletter (publishing annually)



6. RAP MALI

- Revising "Marine Litter Guidelines for Tourists and Tour Operators in Marine and Coastal Areas"
- Updating the pamphlet "Current Situation on marine litter in the NOWPAP region"
- Compiling and harmonize marine litter monitoring data on beaches and submit collected data to DINRAC

- Providing information on best practice to reduce marine litter generation from land-based sources



to be continued till the end of 2012

Budget and Expenditure of CEARAC activities for 2010-2011 biennium (US dollars)

Activity	Planned Budget			Expenditure		
	2010	2011	Total	2010	2011	Total
2 FPMs and 1 Expert Meeting	27,000	27,000	54,000	27,000	23,767	50,767
Web Maintenance - HAB Integrated site - <i>Chochlodinium</i> pages in NOWPAP languages - RS Portal Site - RS Educational material	3,000	2,000	5,000	0	5,223	5,223

Activity	Planned Budget			Expenditure		
	2010	2011	Total	2010	2011	Total
Specific Projects						
- New assessment method focusing on marine BD	in-kind	in-kind		in-kind	in-kind	
- Eutrophication assessment	12,000	4,000	(total) 40,000	0	16,000	(total) 40,000
- Update HAB IR	8,000	2,000	+ in-kind	0	10,000	+ in-kind
- Update RS IR		4,000			4,000	
- RS Training *		10,000			12,316	
Cooperation & Coordination	2,000	2,000	4,000	213	3,931	4,144
Newsletter (7&8)	2,000	2,000	4,000	0	4,550	4,550
Sub-Total	54,000	53,000	107,000	27,213	79,787	107,000

* co-sponsored by PICES, IOC/WESTPAC and IOCCG

Activity	Planned Budget			Expenditure		
	2010	2011	Total	2010	2011	Total
RAP MALI						
- Revise guidelines for tourists			5,000		4,500	4,500
- Update pamphlet on current situation			2,500		0	0
- Compile/harmonize ML monitoring data			in-kind		In-kind	In-kind
- Information on best practice			3,000		6,000	6,000
Sub-Total			10,500	0	0	10,500
Grand Total			117,500	27,213	90,287	117,500

Thank you



Workplan and Revised budget for CEARAC Activities for the 2012-2013 biennium

April 2012

Workplan for 2012-2013 biennium

Activity	
Meetings	2 annual FPMs and 1 Expert Meeting
Web Maintenance	Update and improvement of Web contents in HABs and RS
<Projects>	
-Marine Biodiversity	- Preparation of the regional report for conservation of marine biodiversity and sustainable use of marine ecosystem services in the NOWPAP region
-Eutrophication	- Refining the NOWPAP Common Procedure and conducting assessment of the eutrophication status
- 4 th RS Training	- Organizing the 4 th training course on RS data analysis
Cooperation & Coordination	Participation in and/or joint organization of meetings, workshops, etc.
Watch System	Upgrade of Marine Environmental Watch System (In-kind)
RAP MALI	Conducting marine litter activities

<Specific Projects>

- Preparation of the regional report for the conservation of marine biodiversity and sustainable use of marine ecosystem services in the NOWPAP region
(MPAs in the NOWPAP region, concept of EBSAs)
- Refinement of the NOWPAP Common Procedure for eutrophication assessment
(refinement of the procedure, assessment of the eutrophication status, literature review)
- Organization of the 4th training course on remote sensing data analysis
(in China in 2013)

Revised Budget

Activity	Planned Budget (US\$)			Tentative Time
	2012	2013	Total	
<Meetings> 2 FPMs and 1 Expert Meeting	27,000	27,000	54,000	FPM10 - April 2012 FPM11 - Sep. 2013 EM - Summer 2013
<Web Maintenance> - HAB and RS	2,000	2,000	4,000	Throughout 2012-2013
<Projects>				
- Marine Biodiversity	6,000	14,000	20,000	(WS in Winter 2012)
- Eutrophication	16,000	4,000	20,000	Throughout 2012-2013
- RS Training		10,000	10,000	2013
Cooperation and Coordination	2,000	2,000	4,000	Throughout 2012-2013
Watch System	In-kind	In-kind	In-kind	Throughout 2012-2013
Total	53,000	59,000	112,000	

Activity	Planned Budget (US\$)			Tentative Time
	2012	2013	Total	
<RAP MALI> - Compiling information on government measures & best practices for preventing ML input from land-based sources	3,000	0	3,000	2012
- Compiling/harmonizing ML monitoring data and Submitting them to DINRAC	In-kind	In-kind	In-kind	throughout 2012-13
- Sharing info. on ML	In-kind	In-kind	In-kind	throughout 2012-13
Total	3,000	0	3,000	

Thank you



**Workplan for preparing the regional report
for conservation of marine biodiversity
and
sustainable use of marine ecosystem services
in the NOWPAP region**

CEARAC
The 10th CEARAC FPM
17 April 2012

Background

- 2010-2011 biennium
 - Developing a new marine environmental assessment method for marine biodiversity conservation
 - Lack of *data* for assessment (8th CEARAC FPM8)
- 9th CEARAC FPM (Sep. 2011)
 - Secretariat proposed 2 options
 - Developing criteria for selecting ecologically and biologically significant sea areas in the NOWPAP region
 - Preparing a status report on MPAs in the NOWPAP region
 - 1 new proposal by combining 2 options (NOWPAP IGM16)

**Preparing the regional report
for conservation of marine biodiversity and
sustainable use of marine ecosystem services
in the NOWPAP region**

Objective

To contribute to policy planning for marine biodiversity conservation in the NOWPAP member states

Regional Report:

- to provide useful information for policy planning on marine biodiversity conservation in each member state
- to contribute to promotion of the future marine biodiversity conservation in the NOWPAP region

Main Tasks

1. Collecting information on existing MPAs and other related issues in the NOWPAP region
2. Analyzing the status of MPAs in the NOWPAP region
3. Organizing a workshop to discuss possibility of applying other concepts for marine biodiversity conservation to the NOWPAP region
4. Preparing a regional report

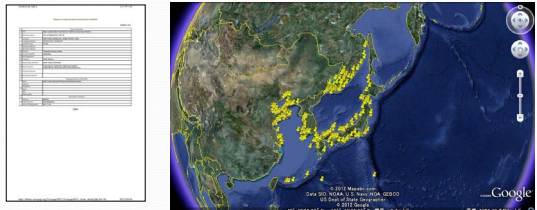
1. Collecting information on existing MPAs and other related issues in the NOWPAP region

- 1.1 Collecting basic information on MPAs in the NOWPAP region
- 1.2 Collecting information on the monitoring and management status in selected MPAs in the member states

1.1 Collecting basic information on MPAs in the NOWPAP region

Number and Location of MPAs in the NOWPAP region

Total 278 MPAs are registered in the DINRAC MPA Database (China: 84 (2), Japan: 99 (34), Korea: 30, Russia: 65 (22))



1.1 Collecting basic information on MPAs in the NOWPAP region

Number and area of MPAs in the NOWPAP region

(not including MPAs in inland and out of the NOWPAP region)

Country	Number of MPAs	Area (hectares) of MPAs
China	82	2,568,483
Japan	65	412,904
Korea	30	549,867
Russia	43	922,921
Total	220	4,454,139

2% of the entire NOWPAP region

1.1 Collecting basic information on MPAs in the NOWPAP region

Categories of MPAs in the NOWPAP region

- ▶ Nature Reserve (incl. State Nature Reserve and State Nature Partial Reserve) : 66: 35 (C); 6(K); 25(R)
- ▶ Marine Special Reserve: 24 (C)
- ▶ Fisheries Genetic Resources Reserve: 21 (C)
- ▶ Natural Monument: 77 (J)
- ▶ National Park (incl. Quasi National Park and National Ocean Park) : 30: 4(C); 19(J); 4(K); 3(R)
- ▶ Natural Park: 5 (R)
- ▶ Wildlife Protection Area: 3 (J)
- ▶ Coastal Wetland Protected Area: 11 (K)
- ▶ Marine Ecosystem Protected Area: 5 (K)
- ▶ Environment Conservation Sea Area: 4 (K)
- ▶ Nature Sanctuaries: 32 (R)

1.1 Collecting basic information on MPAs in the NOWPAP region

Relation to the definition of MPA in China

- Special Marine Biographical Protected Area
→ Marine Special Reserve
- Marine Ecological Protected Area
→ Nature Reserve
- Ocean Park
→ National Ocean Park
- Marine Resources Protected Area
- Aquatic Genetic Resources Protected Area
→ Fisheries Genetic Resources Reserve

1.1 Collecting basic information on MPAs in the NOWPAP region

Relation to the definition of MPA in Japan

- Natural Parks and Natural Seashore Conservation
→ National Park/Quasi National Park, Natural Monument
- Nature Conservation Area, Wildlife Protection Area, Natural Habitat Conservation Area and designated area
→ Wildlife Protection Area
- Protected Water Surface
→ not included in database
(sea area where aquatic fauna, flora and coastal marine resource are conserved and cultivated)

1.1 Collecting basic information on MPAs in the NOWPAP region

Relation to the definition of MPA in Korea

- Wetland/Tidal flat conservation areas
→ Coastal Wetland Protected Area
- Marine ecosystem conservation areas
→ Marine Ecosystem Protected Area, National Park, Nature Reserve, Environment Conservation Sea Area

1.1 Collecting basic information on MPAs in the NOWPAP region

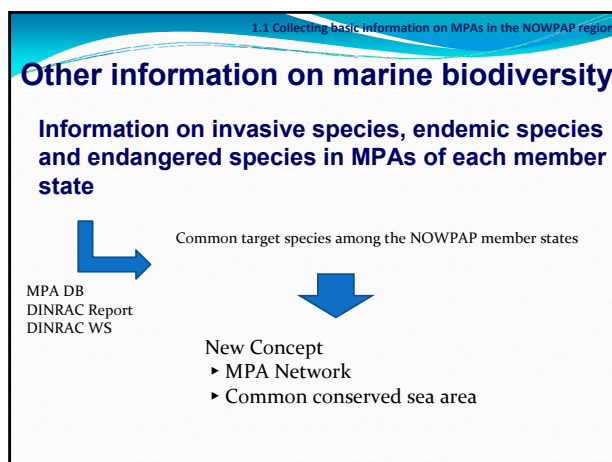
Relation to the definition of MPA in Russia

State Nature Reserve/State Nature Partial Reserve, National Park, National Park, Nature Sanctuaries

1.1 Collecting basic information on MPAs in the NOWPAP region

Relation to the IUCN Protected Area Management Categories

Category of protected area	Primary objective
Ia Strict nature reserve	To conserve regionally, nationally or globally outstanding ecosystems, species (occurrences or aggregations) and/or geodiversity features: these attributes will have been formed mostly or entirely by non-human forces and will be degraded or destroyed to all but very light human impact
Ib Wilderness area	To protect the long-term ecological integrity of natural areas that are undisturbed by significant human activity, free of modern infrastructure and where natural forces and processes predominate, so that current and future generations have the opportunity to experience such areas
II National park	To protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation.
III Natural monument of feature	To protect specific outstanding natural features and their associated biodiversity and habitat
IV Habitat and species management area	To maintain, conserve and restore species and habitats
V Protected landscape and seascape	To protect and sustain important landscape/seascape and the associated nature conservation and other values created by interactions with humans through traditional management practices
VI Protected area with sustainable use of natural resources	To protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial



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

Nominated experts will collect following information

- ▶ Hydrographic condition around the selected MPAs
- ▶ Ecological characteristics of the selected MPAs
- ▶ Presence/absence of regular monitoring in the selected MPAs
- ▶ Presence/absence of the management plan in the selected MPAs
- ▶ Presence/absence of specific protected species in the selected MPAs and their conditions

2. Analyzing the status of MPAs in the NOWPAP region

2.1 Analysis on the status of MPAs in the NOWPAP region

- Definition of MPA in each member state
- Current status of MPAs in the NOWPAP region
- Protected species in MPAs in the NOWPAP region

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

- Hydrographic condition
- Ecological characteristic
- Implementing status of monitoring
- Management status on the marine environment and marine species
- Situation of protected species

3. Organizing a workshop

Objective:

- To discuss the possibility for application of a new concept to sea area for marine biodiversity conservation and sustainable use of marine ecosystem services

Timing: End of 2012 or Beginning of 2013

Expected participants

- Expert(s) of each member state
- Experts from relative international organizations

3. Organizing a workshop

Discussion points

- ▶ Current status of MPAs in the NOWPAP region
- ▶ New concepts for marine biodiversity conservation
 - Ecologically and Biologically Significant Area
 - Marine Protected Area Network
- ▶ Self-assessment on management effectiveness

Expected outputs

- ▶ Potential new concepts for the NOWPAP region
- ▶ Possibility of self-assessment on management effectiveness

4. Preparation of regional report

Draft table of contents

1. Introduction
2. Regional overview on existing MPAs in the NOWPAP region
 - 2-1 Situation of existing MPAs in the NOWPAP region
 - 2-2 Criteria of MPAs 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
 - 3-2 Monitoring status of the marine environment and marine species
 - 3-3 Management status of the marine environment and marine species
 - 3-4 Situation of protected species

4. Preparation of regional report

Draft table of contents

4. New concept for marine biodiversity conservation and sustainable use of marine ecosystem services
 - 4-1 Possibility on applying a concept of ecologically and biologically significant sea areas to the NOWPAP region
 - 4-2 Possibility on establishing MPA networks for marine biodiversity conservation
 - 4-3 Possibility of self-assessment on the management effectiveness
5. Conclusion


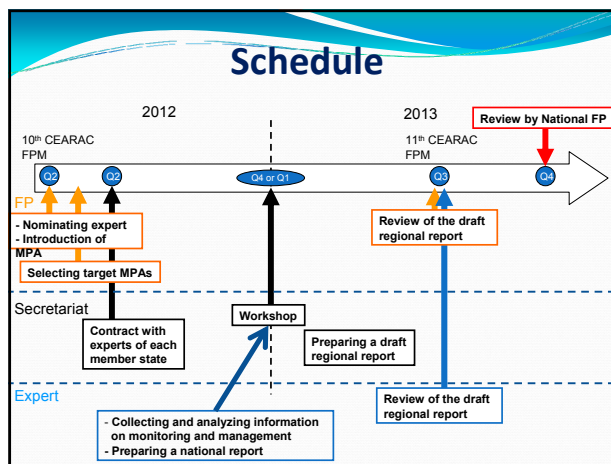
Expected outcome

- ▶ Useful information for policy makers of the member states in order to enhance marine biodiversity conservation measures
- ▶ Basic concepts for marine biodiversity conservation in the NOWPAP region

➔ Regional Action Plan for marine biodiversity conservation

Potential partners

- ▶ NOWPAP DINRAC
 - Database on MPAs
 - Information on Invasive species
- ▶ OSPAR
 - Experiences on designing EBSAs
 - Self-assessment on management effectiveness

Budget

Task	Conduct	Output	Completion	Contractor	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 of China	2,000
				CEARAC	In-kind
				Expert of Korea	2,000
				Expert of Russia	2,000
Organizing a workshop	2012 Q4 or 2013 Q1	New concept for marine biodiversity conservation and sustainable use of marine ecosystem services for the NOWPAP region		CEARAC and Experts of each member state	10,000
Preparing the regional report	2013 Q4	Regional report		CEARAC	4,000
Total					20,000

Outputs of the 10th CEARAC FPM

- Definition of MPAs in each member state
- Nominating an expert of each member state
- Outline for selecting target MPAs for collecting information

After FPM, target MPAs will be selected by FPs in each member state, respectively.

Target MPAs in each member state

- China (12 MPAs)
- Special Marine Biographical Protected Area (3 MPAs)
 - Marine Ecological Protected Area (3 MPAs)
 - Ocean Park (3 MPAs)
 - Marine Resources Protected Area (3 MPAs)
- Japan (12 MPAs)
- Natural Parks and Natural Seashore Conservation (4 MPAs)
 - Nature Conservation Area, Wildlife Protection Area, Natural Habitat Conservation Area and designated area (4 MPAs)
 - Protected Water Surface (4 MPAs)
- Korea (12 MPAs)
- Wetland/Tidal flat conservation areas (6 MPAs)
 - Marine ecosystem conservation areas (6 MPAs)
- Russia (12 MPAs)
- -

Definition of MPA in each member state

1.1 Collecting basic information on MPAs in the NOWPAP region

Definition of MPA by CBD (COP7)

“A marine and coastal protected area means any defined area within or adjacent to a 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 customs, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings”

1.1 Collecting basic information on MPAs in the NOWPAP region

Definition of MPA by IUCN

“A protected area is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values”

Definition of MPA in China

According to the related rules and law, in order to strengthen the construction and management of marine protected reserves and protect environment and resource; we set some areas as marine nature protected area, including coastal area, estuary area, islands, wetlands or seas. In order to improve the legal system for ocean ecological protection, we divide MPA as some special marine protected areas.

Special marine biographical protected area is the region where there is important right evaluation or special oceanographic dynamics conditions. The area include marine and island.

Special marine protected area is the region where there is special biographical environment, ecosystem, biological and abiotic resource, and other special conditions, needs special effective protection and scientific utilization.

According to the biographical location, resource and environment, the state of development and utilization, and the need of social and economic development, the special marine protected area can be divided four main types. That is special marine biographical protected area, marine ecological protected area, marine park, marine resource protected area.

In order to reserve the ocean biodiversity and the ecosystem servers, we set **marine eco-protected area**, including the region where rare and endangered species live, the region where typical ecosystems focus, and other region where the ecosystem is ecologically sensitive fragile or ecological restoration

In order to protect the ocean ecology and historical value, to develop the eco-tourism function, we set **Ocean Park**. Ocean Park is the region with special marine ecological landscape, historical and cultural sites, and unique geographical landscape.

To promote the sustainable use of marine resources, we set **marine resources protected area**. The marine resources protected area is the region with important biological resources, important mineral resources, important oil and gas resources, or important ocean energy resources. The marine resources protected area includes the reserved area for resources development, marine ecological industrial zone, and various types of marine resources development coordination area.

In order to protect and rational use of the aquatic genetic resources and the living environment, we set **aquatic genetic resources protected area**, where the protected fishes live and breed, including the spawning grounds, feeding grounds, wintering grounds, migration channels and so on.

Definition of MPA in Japan

Marine areas designated and managed by law or other effective means, in consideration of use modalities, aimed at the conservation of marine biodiversity supporting the sound structure and function of marine ecosystems and ensuring the sustainable use of marine ecosystem services.

- 1) **Natural Parks and Natural Seashore Conservation** that aim to protect the natural landscape
- 2) **Nature Conservation Area, Wildlife Protection Area, Natural Habitat Conservation Area and designated area** that aim to conserve the natural environment or the habitat or nursery ground of organisms
- 3) **Protected Water Surface** that aim to conserve and cultivate aquatic fauna and flora, coastal marine resource development areas, and many other various specified areas designated by different entities such as prefectural governments and fishing groups

Definition of MPA in Korea

Marine and tidal flat areas designated and managed by law aimed at the conservation of natural landscape and marine biodiversity supporting the sound structure and function of marine ecosystems and ensuring the sustainable use of marine ecosystem services.

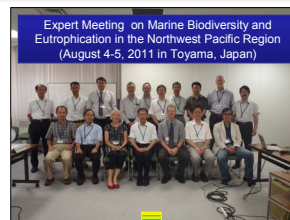
- 1) **Wet-land/Tidal flat conservation areas** that aim to protect the natural landscape, and to conserve the natural environment, the habitat and nursery ground targeting on tidal flat
- 2) **Marine ecosystem conservation areas** that aim to conserve the natural environment, the habitat and nursery ground targeting on sea areas

Definition of MPA in Russia

Workplan and budget for refinement of the Common Procedures for eutrophication assessment towards assessment of the whole NOWPAP region

CEARAC
April 17, 2012

1. Background



Refinement of the Common Procedure to improve its suitability towards assessment of eutrophication status of the whole NOWPAP region was suggested.

2

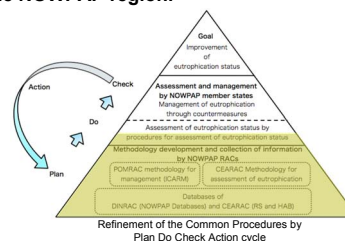
1. Background

- Conclusions and recommendations in the Integrated Report on eutrophication assessment
 - ♦ [6.2.1 Integrated assessment of eutrophication status of the whole NOWPAP region \(p81\)](#)
 - ♦ 6.2.2 Delivering results of eutrophication assessment for Integrated Coastal and River Basin Management (p81)
 - ♦ 6.2.3 Assessment of negative impact of eutrophication to marine environment in the NOWPAP region (p82)
 - ♦ 6.2.4 Introduction of ecological modeling to set appropriate nutrients control (reduction) target (p82)

3

2. Objective

- to improve the suitability of NOWPAP Common Procedures by refinement and to apply the refined Common Procedures in expanded and existing selected sea areas towards assessment of eutrophication status of the whole NOWPAP region.



Refinement of the Common Procedures by Plan-Do-Check-Action cycle

3. Main tasks (1/2)

- **3.1 Refinement of the Common Procedures**
 - ♦ Revised parameters
 - Common parameters?
 - Surface or bottom?
 - Seasonal variation?
 - ♦ Improvement of consistency of reference values
 - Different national standards among 4 member states
 - Scientific approach for DO level
 - Background values?
 - ♦ Improvement of consistency in classification (rating) system
 - Adaption of one out, all out approach?
 - Adoption of rating system?

5

3. Main tasks (1/3)

- **3.1 Refinement of the Common Procedure**
 - ♦ Refinement of the Common Procedure
 - Revised parameters
 - Common parameters?
 - Surface or bottom?
 - Seasonal variation?
 - Improvement of consistency of reference values
 - Different national standards among 4 member states
 - Scientific approach for DO level
 - Background values?
 - Improvement of consistency in classification (grading) system
 - Adaption of one out, all out approach?
 - Adoption of rating system?
 - ♦ Update of case study with the refined Common Procedure

6

3. Main tasks (2/3)

- **3.2 Literature review on eutrophication assessment and ecological modeling**
 - ♦ Review of literatures on negative impact of eutrophication, ecological modeling
 - ♦ Review of availability of monitoring data

3. Main tasks (2/3)

- **3.2 Preparation of the regional overview of the eutrophication assessment for the NOWPAP region**

3.1 Updated case studies on eutrophication assessment 3.2 Results of literature review

Preparation of regional overview

4. Expected outcomes

- Regional overview on eutrophication assessment in selected sea areas in the NOWPAP region.
- Web contents on eutrophication status of each case study area

↓

Common understanding on the status of eutrophication in the NOWPAP region

5. Potential partners

- NOWPAP RACs, especially POMRAC
- HELCOM Secretariat
- Local governments

5. Potential partners

- NOWPAP RACs, especially POMRAC
- HELCOM Secretariat
- Local governments

6. Schedule

Implementation of assessment on eutrophication status in each NOWPAP member state

2012 2013

10th CEARAC FPM

Q2 Q3 Q4 Q1 Q2 Q3 Q4

Approval of Workplan and budget Application of the Common Procedures and preparation of case study reports Review of integrated Report by experts and CEARAC FPs

Refinement of the Common Procedures Review of the Common Procedures by relevant ministries and organizations Preparation of regional overview Publication of the regional overview and Preparation of website

Legend:
■ CEARAC and consultant
■ CEARAC FPs
■ Experts

6. Budget

Contract	Timing	Output	To be completed	Counterpart	Budget (US\$)
Refinement of Common Procedures and application of refined Common Procedures in each selected sea area of NOWPAP member states	2012 Q2	Refined Common Procedures and results of eutrophication assessment in each selected sea area	2013 Q1	Expert or organization in China	4,000
				Consultant in Japan	4,000
				Expert or organization in Korea	4,000
				Expert or organization in Russia	4,000
Preparation of updated regional overview on eutrophication assessment in selected sea areas	2013 Q2	Regional overview on eutrophication assessment in selected areas in the NOWPAP region	2013 Q4	CEARAC and consult	4,000
Total					20,000

Evaluation of the NOWPAP Common Procedure for its refinement

Genki Terauchi and Ryo Tsujimoto

NOWPAP CEARAC / NPEC

Outline

- I. Evaluation of the NOWPAP Common Procedure
- II. Things needed towards eutrophication assessment of the whole NOWPAP region

I. Evaluation of the NOWPAP Common Procedure

Selected sea areas for case studies in 2010-2011 biennium

Achievements with the use of the NOWPAP Common Procedure

Nation	Selected area	Sub-area	Criteria for classifying category	Category			
				I	II	III	IV
China	Changjiang (Yangtze) River Estuary and adjacent sea area		Majority decisions	HI	LI	LN	-
Japan	Northwest Kyushu sea area	A. Hakata Bay	Majority decisions	LI	HD	LN	LN
		B. Sakai Bay and Kammon Strait	Majority decisions	LD	LN	LN	LN
		C. Intermediate area	Majority decisions	LN	LN	LN	HN
		D. Offshore area	Majority decisions	-	LN	LN	LN
	Toyama Bay	A. Coastal area	Majority decisions	LN	LN	LN	LN
		B. Intermediate area	Majority decisions	LN	LN	LN	LN
		C. Offshore area	Majority decisions	LN	LN	LI	LN
Korea	Jinhae Bay	A. Jinhae Bay	Majority decisions	LD	HN	LD	LN
		B. Masan-Hangam Bay	Majority decisions	LD	HN	LN	LN
Russia	Peter the Great Bay	A. Amursky Bay	Majority decisions	HI	LI	HD	LN
		B. Ussurysky Bay	Majority decisions	LN	LN	LN	-
		C. Southern part of the Peter the Great Bay	Majority decisions	LN	LN	LN	-

Common parameters and their assessment results

Nation	Selected area	Sub-area	Eutrophication assessment results of common parameters					
			DIN scores	DIP concs.	DIN:DIP ratio	Max. Chl-a	Mean Chl-a	DO
China	Changjiang/Yangtze River Estuary and adjacent sea		HI	LI	HN	HN	LI	LN
Japan	Northwest Kyushu sea area	A. Hakata Bay	HI	LN	HI	HD	HD	LN
		B. Sakai Bay and Kammon Strait	-	-	-	HN	HN	LN
		C. Intermediate area	LN	LD	HN*	LN	LN	LN
		D. Offshore area	-	-	-	N	N	HN
	Toyama Bay	A. Coastal area	LN	LN	HN*	LN	LN	LN
		B. Intermediate area	LN	LN	HN*	LN	LN	LN
		C. Offshore area	LN	LN	HN*	LN	LN	LI
Korea	Jinhae Bay	A. Jinhae Bay	LD	LD	LD	-	HD	LD
		B. Masan-Hangam Bay	LD	LD	LD	-	HD	LD
Russia	Peter the Great Bay	A. Amursky Bay	HI	HI	-	-	LI	HD
		B. Ussurysky Bay	LN	LN	-	LN	LN	LN
		C. Southern part of the Peter the Great Bay	LN	LN	-	HN	LN	LN

* Parameter distributions of the water DIN:DIP ratio were based on majority distributions because water DIN concentrations and water DIP concentrations were lower than reference concentrations.

Temporal and spatial differences in assessment parameters

Nation	Selected area	Sub-area	Spatial scale for assessment	Eutrophication assessment results of common parameters							
				DIN conc.	DIP conc.	DIN:DIP ratio	Mean Chl-a	Mean Chl-c	ppO ₂	Annual mean	Annual mean
China	Changjiang (Yangtze) River estuary and adjacent sea area	A	Sub area average	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean
		B	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
		C	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
Japan	Northwest Kyushu sea area	A	Sub area average	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	
		B	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
		C	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
Japan	Toyama Bay	A	Sub area average	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	
		B	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
		C	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
Korea	Jinhae Bay	A	Sub area average	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	
		B	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
		C	Each station	Winter mean	Winter mean	Winter mean	Annual mean	Annual mean	Annual mean	Annual mean	
Russia	Peter the Great Bay	A	Sub area average	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	Annual mean	
		B	Each station	Each cruise	Each cruise	Each cruise	Annual mean	Annual mean	Annual mean	Annual mean	
		C	Each station	Each cruise	Each cruise	Each cruise	Annual mean	Annual mean	Annual mean	Annual mean	

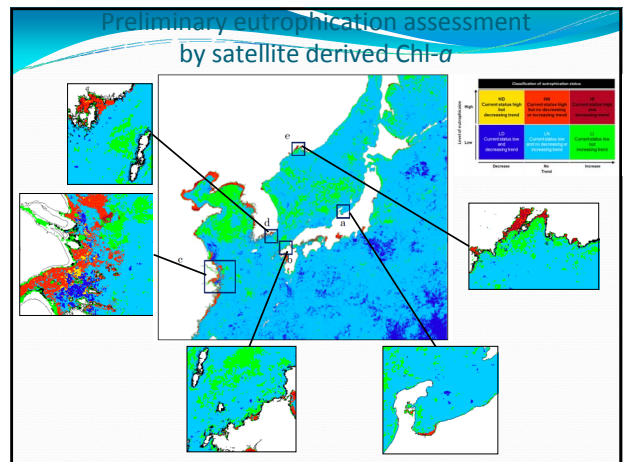
Temporal differences in assessment period and statistical method for trend detection

Selected sea areas	Assessment period	Years	Statistical method for trend detection
Changjiang River estuary and its adjacent sea area	1963-2007	45	Mann-Kendall test (Non parametric method)
Northwest Kyushu sea area	1978-2007	30	
Toyama Bay	2000-2007	8	
Jinhae Bay	2002-2008	7	-
Peter the Great Bay	2001-2010	10	Parametric method

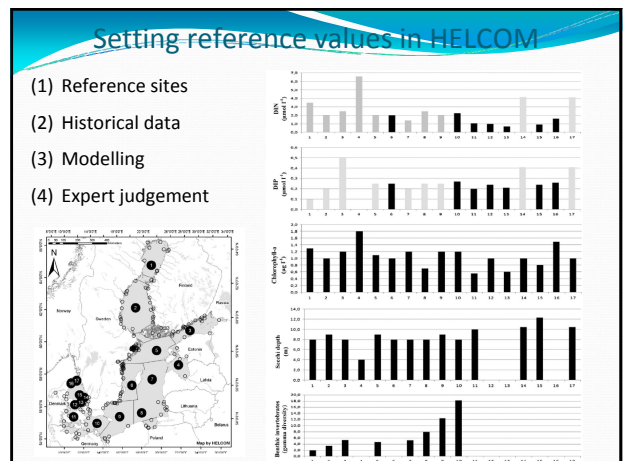
Reference values used in each selected sea area (E.g.: DIN and Chl-a)

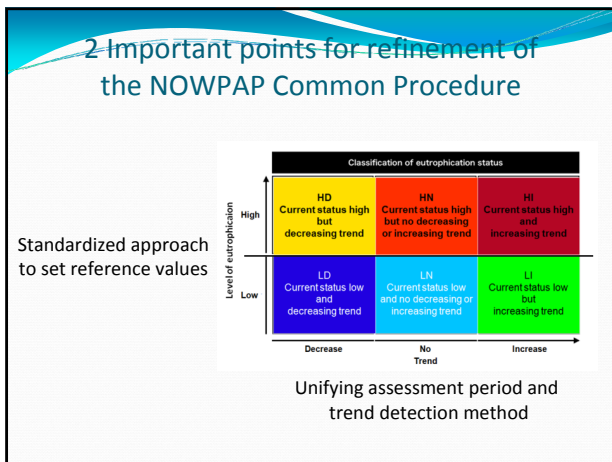
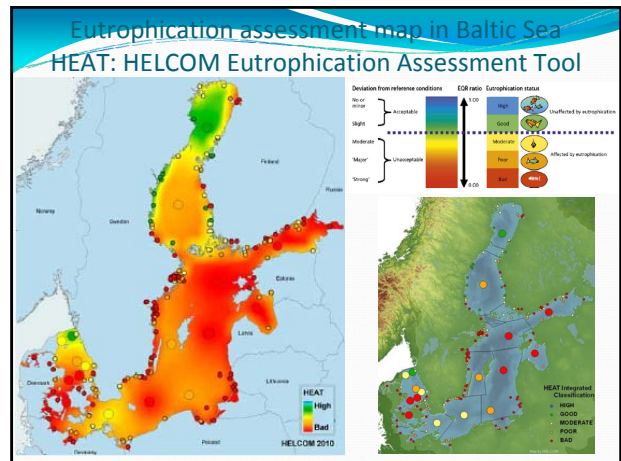
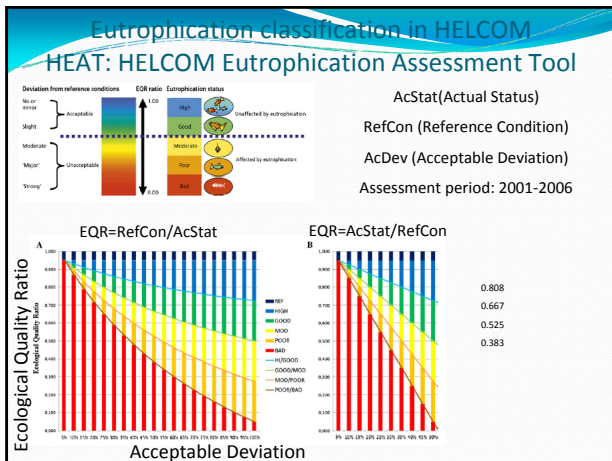
Selected sea areas	Reference value for DIN	Reference
Changjiang River estuary and its adjacent sea area	28.6 μM	NSQS (1997)
Northwest Kyushu sea area	12.1, 24.1, 40.1 μM	Environmental standard
Toyama Bay	10.3 μM	Background value in Gijang coast
Jinhae Bay	6.4 μM	Background value in Gijang coast
Peter the Great Bay	18.3, 24.3, 33.4 μM	Redfield <i>et al.</i> (1963)

Selected sea areas	Reference value for annual Chl-a	Reference
Changjiang River estuary and its adjacent sea area	5 μg/L	Bricker <i>et al.</i> (2003)
Northwest Kyushu sea area	5 μg/L	Bricker <i>et al.</i> (2003)
Toyama Bay	5 μg/L	Bricker <i>et al.</i> (2003)
Jinhae Bay	2.4 μg/L	Gijang coast
Peter the Great Bay	8 μg/L	OECD(1982)



II. Things needed towards eutrophication assessment of the NOWPAP Common Procedure





Standardized approach to set reference values

Selected sea areas	Current approach	Standardized approach
Changjiang River estuary and its adjacent sea area	Compliance with environmental standard	Setting reference values by the following means a) Background value from reference site b) Historical data c) Modeling d) Expert judgment
Northwest Kyushu sea area		
Toyama Bay	Background value from reference site	
Jinhae Bay		
Peter the Great Bay	Calculation from minimum DO level based on the Redfield ratio	

Review of approaches in HELCOM, OSPAR and NOAA/NEEA is essential

Standardized approach for detection of trend

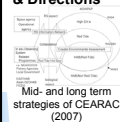
Selected sea areas	Assessment period	Years	Statistical method for trend detection
Changjiang River estuary and its adjacent sea area	2002-2011	10	Mann-Kendall test (Non parametric method)
Northwest Kyushu sea area			
Toyama Bay			
Jinhae Bay			
Peter the Great Bay			

Proposal for the 4th NOWPAP training course on remote sensing data analysis

CEARAC
April 17, 2012

1. Background

Suggestions & Directions



Implemented capacity building activities

The First NEAR-GOOS - NOWPAP training courses on remote sensing data analysis Nagasaki, Japan (2007)



The Second NOWPAP training courses on remote sensing data analysis Cheju, Korea (2008)



NOWPAP/PICES/WESTPAC joint training course on remote sensing data analysis Vladivostok, Russia



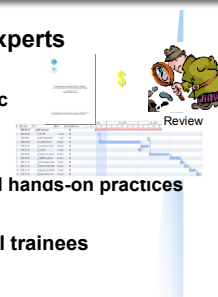
2. Objective

- to provide opportunities for students, young researchers and coastal managers to help obtain useful skills and knowledge to utilize remote sensing data in monitoring and assessment of the marine environment.



3. Main tasks

- Tasks requested to WG4 experts
 - Review of workplan
 - Venue, schedule, budget, etc
 - Review of syllabus
 - Time for each lecture
 - Composition of lectures and hands-on practices
 - Nomination of lecturers
 - Recommendation of potential trainees
 - Selection of applicants



4. Potential partnership with other organization

- Potential counterparts as local host

Counterparts	Recommended by
China Ocean University in Qingdao	Dr. Ichio Asanuma, WG 4 member in Japan
China University of Petroleum in Qingdao	Ms. An TONG, DINRAC Secretariat
State Key Laboratory SOED Second Institute of Oceanography State Oceanic Administration in Hangzhou	Dr. Joji Ishizaka, WG 4 member / CEARAC FP in Japan

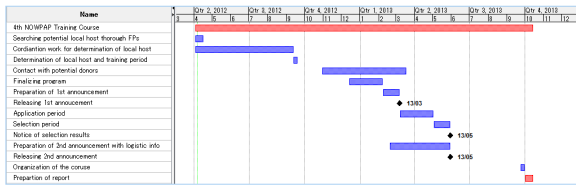
- Supporters

- ♦ IOC/WESTPAC, PICES ...

5. Expected outcome

- Contribute to capacity building of the NOWPAP member state for utilizing remote sensing data for marine environment conservation.
- To obtain useful information to consider future direction of CEARAC activities related to remote sensing through feedbacks from trainees

5. Schedule



6. Budget

10,000 US\$ is allocated from NOWPAP Trust Fund.

Contribution from other organization is under negotiation.

Thank you very much



Workplan and budget for maintenance of CEARAC websites and upgrade of the Marine Environmental Watch System

CEARAC
April 17, 2012

1. Background

2. Objective

- to deliver latest information and data collected through implementation of CEARAC activities to stakeholders and the public worldwide.

Top 5 countries	Visits
Japan	1,287
Russia	823
US	432
China	256
South Korea	227

Annual number of visit to the CEARAC Website in 2011

3. Main tasks

3.1 Maintenance of CEARAC websites

3. Main tasks

3.1 Maintenance of CEARAC websites

- Latest information on educational materials, website links, references in NOWPAP Ocean Remote Sensing Portal.

3. Main tasks

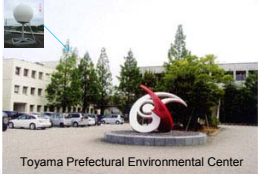
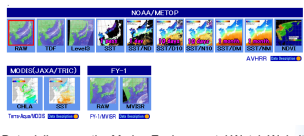
3.1 Maintenance of CEARAC websites

- Establishing link to the Chlorophyll Globally Integrated Network (ChloroGIN*) from the Marine Environmental Watch Website.

3. Main tasks

3.2 Upgrade of Marine Environmental Watch System

- Background
 - Installed at Toyama Prefectural Environmental Center in 2002 with the support of Ministry of Environment of Japan
- Objectives
 - To support implementation of NOWPAP WG4 activities (remote sensing of marine environment)

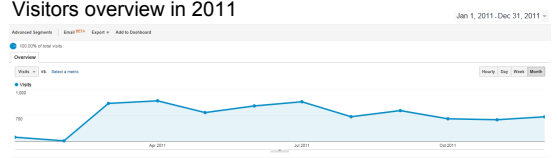



Data delivery on the Marine Environmental Watch Website

3. Main tasks

3.2 Upgrade of Marine Environmental Watch System

Visitors overview in 2011

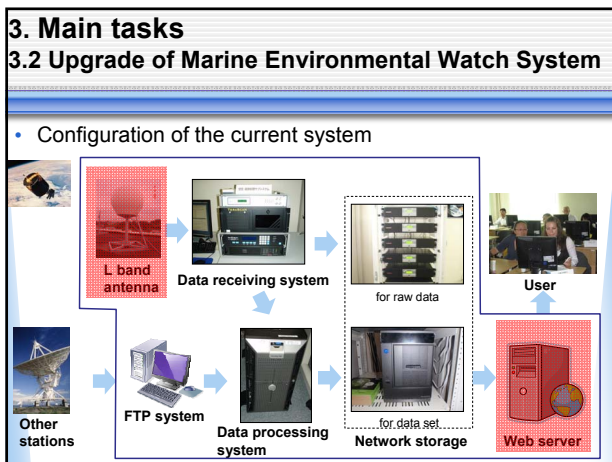


3,998 people visited this site

- 8,435 Visits
- 3,998 Unique Visitors
- 28,292 Pageviews
- 3.12 Pages/Visit
- 00:02:06 Avg. Visit Duration
- 44.62% Bounce Rate
- 45.69% % New Visits

46.71% New Visitor
54.29% Returning Visitor

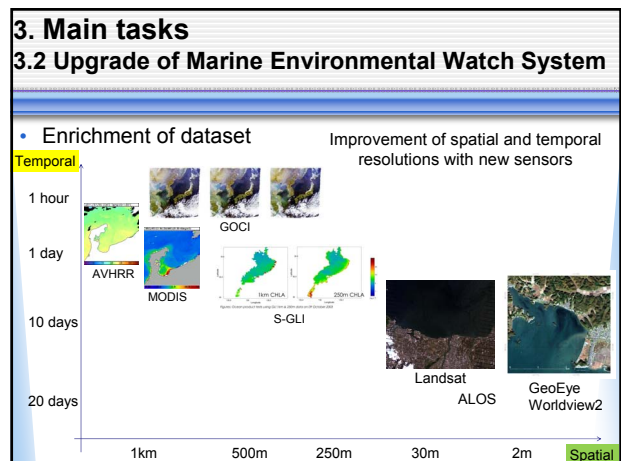
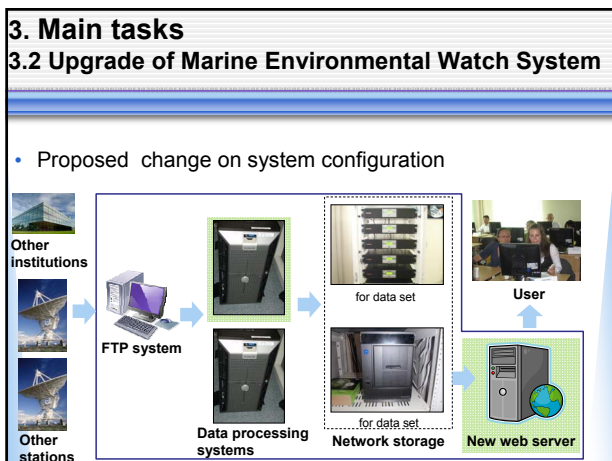
- 200 registered users

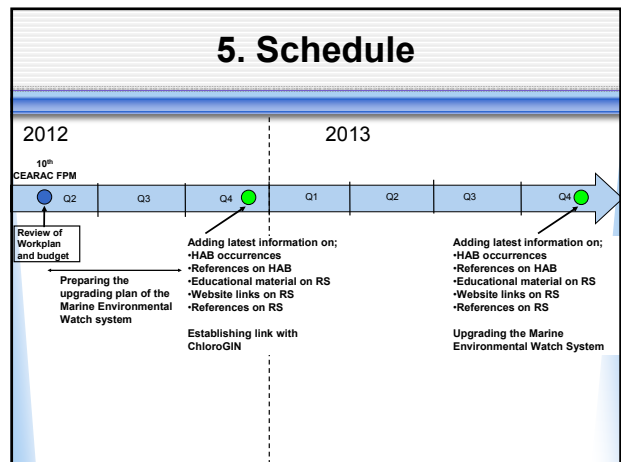
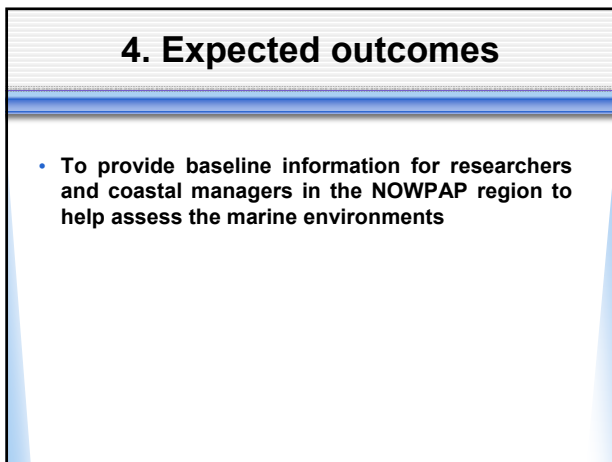
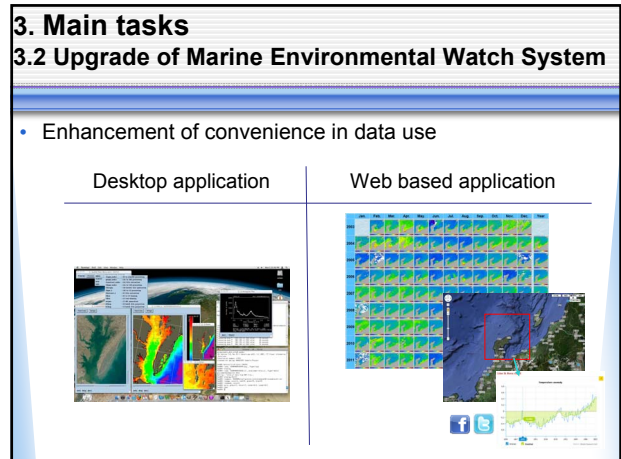
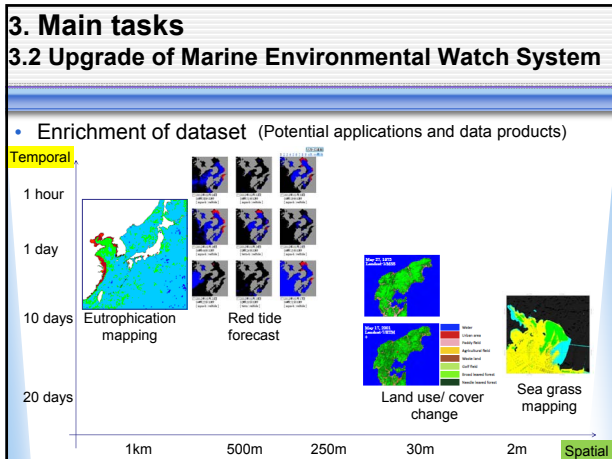


3. Main tasks

3.2 Upgrade of Marine Environmental Watch System

- Change on system configuration
- Enrichment of data sets
- Enhancement of the convenience in data use





6. Budget

Contract	Timing	Output	To be completed	Counterpart	Budget (US\$)
MoU for maintenance of CEARAC websites	2012 Q4	<ul style="list-style-type: none"> Added information on HAB occurrences and references in the HAB integrated website. Added information on educational materials, website links, references in NOWPAP Ocean Remote Sensing Portal. 	2013 Q4	Consultant	4,000
Total					4,000

*Budget for upgrading the Marine Environmental Watch System is pending approval by the Ministry of the Environment of Japan.

CEARAC Marine Litter Activities based on RAP MALI

CEARAC
16-17 April, 2012

Background

```

graph TD
    A[Phase I (2006-2007)  
Assessment of the regional situation] --> B[Phase II (2007)  
Preparation of  
the Regional Action Plan]
    B --> C[Phase III (2008-)  
Implementation of activities based  
on RAP MALI]
        
```

The goal of RAP MALI is to improve the quality of the marine and coastal environment of the Northwest Pacific region by addressing the marine litter problem through cooperation and partnerships.

Three objectives

- To prevent the marine litter input into the marine and coastal environment
- To monitor the quantities and distribution of marine litter
- To remove existing marine litter that was already discarded, disposed and abandoned

Background

At the RAP MALI Working Meeting which was held in Lianyungang, China in September 2011, ML FPs, RCU and RAC representatives discussed the workplan for the 2012-2013 biennium.

Proposed workplan was approved at the 16th NOWPAP IGM and budget 40,000 US\$ was allocated for NOWPAP marine litter activity.

Based on this approval, CEARAC implements marine litter activities in the 2012-2013 biennium.

Background

Budget for 2012-2013 RAP MALI activities

Activities	Budget, US\$
2012 NOWPAP ICC campaign and ML WS in Vladivostok, Russia	10,000
2013 NOWPAP ICC campaign and ML WS in Japan	10,000
CEARAC (compilation of ML monitoring data and preparation of regional report on government measures and best practices for prevention of ML input from land)*	3,000
MERRAC (compilation of best practices in dealing with marine litter in fisheries and aquaculture)	5,000
DINRAC (maintenance and update of ML database)	2,000
POMRAC (preparation of ML public awareness materials)	2,000
RCU (travel support and development of public awareness materials)	8,000
Total:	40,000

1. Compiling information on government measures and best practices for prevention of marine litter input from land-based sources in the NOWPAP member states

Objective:
To understand the situation on existing government measures to prevent litter input into the sea and the situation on cooperation among central and local governments and other entities

Tasks:

1. Collecting information on government measures for preventing litter input into the marine area
2. Collecting information on cooperation among central and local governments and other entities
3. Collecting information on best practices for preventing litter input from land by local governments and other entities
4. Preparing a regional report on best practices for prevention of marine litter input from land-based sources

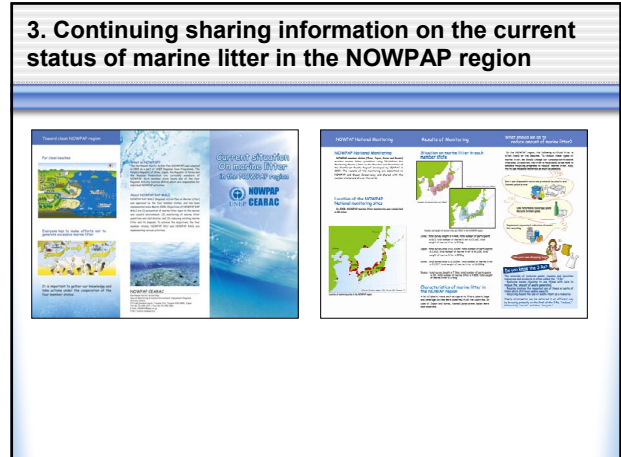
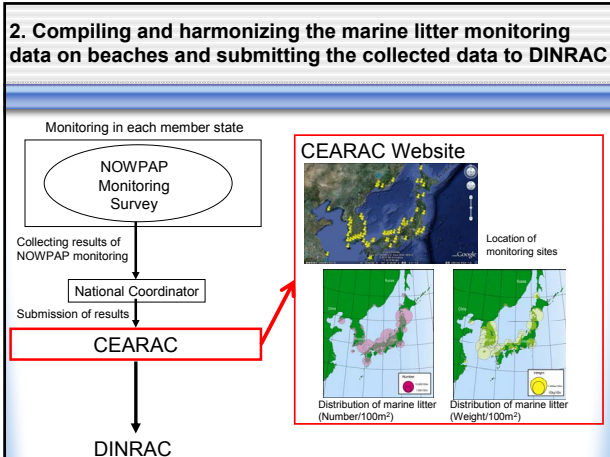
1. Compiling information on government measures and best practices for prevention of marine litter input from land-based sources in the NOWPAP member states

Schedule:

Budget: US\$9,000

- US\$6,000 was spent for collecting information in each member state, using the budget for the 2010-2011 biennium
- US\$3,000 (allocation for 2012-2013) will be used for preparation and publication of the report

Completion date: December 2012



CEARAC's contribution to SOMER 2

April 2012

2. Current Status

- 2.2 Assessment of the supporting and regulating ecosystem services
 - 2.2.3 Primary production
- 2.3 Assessment of the provisioning and cultural ecosystem services
 - 2.3.1 NOWPAP marine and coastal areas as sources of food (including fisheries, aquaculture, etc.)

3. Problems /Issues

- 3.2 Assessment of ecological problems connected with biodiversity issues (including HAB, MPAs, invasive species, endangered species, overfishing, etc.) (with DINRAC)
- 3.3 Overall assessment and evaluation of marine and coastal areas of NOWPAP region (including marine litter, persistent toxic substances, etc.) (with POMRAC and MERRAC)

4. Conclusions

(including recommendations on policy and legislation, data exchange and management, ICARM, etc.)
(all RACs)