

Implementation of NOWPAP since the last CEARAC FPM

NOWPAP Regional Coordinating Unit (RCU)

DINRAC

2014–2015 activities:

- ▶ Annual summary of major marine environmental data available in the NOWPAP region.
- ▶ Annual updating of existing databases in order to share the latest data in the NOWPAP region (including ML).
- ▶ Developing visualized DINRAC website and enriching the thematic maps in the web GIS.
- ▶ Collection of information on endangered /threatened species in the NOWPAP region.

2

DINRAC (2)

Databases available at DINRAC website:

- ▶ Major environmental data (with 2012–2013 data).
- ▶ Coastal and Marine Environmental GIS and Remote Sensing Applications.
- ▶ Marine Litter (updated with 2013 data).
- ▶ Coastal and Marine Nature Reserves.
- ▶ NOWPAP Publications.
- ▶ NOWPAP Institutions and Experts

3

DINRAC (3)

Projects agreed for 2016–2017 at the FPM in July:

- ▶ Annual summary of major marine environmental data available in the NOWPAP region (continued).
- ▶ Compilation of national environmental standards.
- ▶ Further development of DINRAC website (including web GIS).
- ▶ Collection of information on threatened species in the NOWPAP region (phase 2).

4

MERRAC

Activities approved by the 18th NOWPAP IGM:

- ▶ Risk assessment of oil and HNS spills in the NOWPAP region.
- ▶ Establishment of oil and HNS spill prediction system.
- ▶ Establishment of HNS information network.
- ▶ Expert Meeting (hosted by Russia).
- ▶ NOWPAP Exercises (NOWPAP BRAVO, NOWPAP DELTA).

5

MERRAC (2)

Activities implemented instead:

- ▶ Risk assessment – ✓
- ▶ Expert Meeting – ✓
- ▶ NOWPAP Exercises – ✓
- ~~▶ Establishment of oil and HNS spill prediction system.~~
- ~~▶ Establishment of HNS information network.~~
- ▶ Online pollution reporting system
- ▶ Updating database of oil and HNS equipment and experts

6

MERRAC (3)

19th IGM:

- › noted that although activities related to ballast water management and climate change impacts and mitigation were suggested in the Medium-term Strategy 2012–2017, MERRAC Focal Points were reluctant to implement such new activities arguing that they are beyond the current capacity of the Focal Points and experts.
- › suggested MERRAC to prepare a concrete proposal for the next IGM looking into the issue, including possible modification of the Terms of Reference for MERRAC and its FPM.

7

POMRAC

2014–2015 activities:

- › Development of ecological quality objectives (EcoQOs) in the NOWPAP region with a regional workshop.
- › Practical application of NOWPAP Regional Guidelines for Integrated Coastal Planning/Management through regional workshop/training course.

8

POMRAC (2)

Publications:

- › The second State of Marine Environmental Report (SOMER-2) for the NOWPAP Region.
- › The Regional Overview on Persistent Toxic Substances (PTS) and Persistent Organic Pollutants (POPs) Issues of Ecological Concern in the NOWPAP Region.
- › Regional Guidelines for Integrated Coastal Planning and Management (ICARM).

9

POMRAC (3)

Current situation: major activities are “frozen” until the 20th IGM will make a decision on the following options:

- › POMRAC to pay for its transactions with taxes according to Russian laws and regulations.
- › Activities meant for POMRAC are incorporated into the PoW of other RACs.
- › POMRAC is closed or moved from Russia to another member state.

10

Public awareness raising

- › NOWPAP homepage and RAC homepages – since 2006.
- › NOWPAP Quarterly – since 2008.
- › Facebook – since 2011.
- › Partners' websites/newsletters (e.g., IETC, PEMSEA).
- › UNEP ROAP and GPA websites, UNEP DEPI Dispatch.
- › Lectures/presentations at a local level.

11

Public awareness raising (2)

- › Global and regional meetings (e.g., Global Meetings of Regional Seas, PICES Annual Meetings, etc.).
- › Close relationships with NGOs:
 - Japan Environment Action Network (JEAN),
 - Our Sea of East Asia Network (OSEAN),
 - Ocean Conservancy (OC),
 - Shanghai Rendu (NGO in China).

12

RAP MALI

Member states:

- ▶ supporting International Coastal Cleanup (ICC) campaigns
- ▶ Green New Deal Fund (Japan)
- ▶ Comprehensive Marine Litter Management Plan – 2nd phase (Korea).

RCU:

- ▶ Sharing news and information via homepage and by e-mail with NOWPAP RACs and ML FPs.
- ▶ 2015 NOWPAP ICC in Yantai – with TEMM.

13

RAP MALI (2)

RACs:

- ▶ CEARAC host, NPEC – Northwest Pacific Regional Node of the Global Partnership on Marine Litter (GPML).
- ▶ DINRAC ML database – monitoring results provided by the NPEC (Japan), SOA (China), and MOF (Korea) as well as ICC results from China and Russia.
- ▶ MERRAC – report on Best Practices in dealing with Marine Litter in Fisheries, Aquaculture and Shipping Sectors in the NOWPAP Region (from 2012–13 biennium).

14

Other developments

Close partnership relations were maintained with:

- ▶ International Environment Technology Center (IETC) of UNEP.
- ▶ North–East Asian Subregional Programme for Environmental Corporation (NEASPEC).
- ▶ North Pacific Marine Science Organization (PICES).
- ▶ Partnerships in Environmental Management for the Seas of East Asia (PEMSEA).
- ▶ UNESCO/IOC Sub–Commission for the Western Pacific (WESTPAC).

15

Other developments (2)

- ▶ 19th NOWPAP IGM (October 2014, Moscow, Russia) – symposium was held to commemorate the 20th anniversary of NOWPAP.
- ▶ Financial Rules for the funds of NOWPAP were approved.
- ▶ RCU audit by UN OIOS was carried out.
- ▶ In addition to regular (18th and 19th) IGMs, two extraordinary (EO) IGMs were held in 2014 and 2015 to discuss RCU restructuring.

16

Other developments (3)

- ▶ 18th IGM (December 2013) and 1st EO IGM (April 2014) suggested to reduce the number of UNEP RCU staff members from six to four and then to downgrade the levels of RCU posts.
- ▶ As a result, three persons have left the RCU in July–August 2014.
- ▶ As two staff members who have left in 2014 were responsible (among other things) for resource mobilization and project development, no new project proposals were developed.
- ▶ In spite of the limited capacity of the RCU, activities related to public awareness and partnership building were continued.

17

Other developments (4)

2nd EO IGM (April 2015):

- ▶ aiming to keep the staffing costs within the current contributions of two RCU host countries (Japan and Korea),
- ▶ decided to revise staffing structure of the NOWPAP RCU offices as follows:
 - Toyama office: P5 Coordinator and G6 Programme Assistant;
 - Busan office: P3 Programme Officer and G4 Team Assistant.

18

Thanks and have a nice and
productive meeting!!!

Report on the Implementation and Expenditure of CEARAC Activities for the 2014-2015 biennium

**NOWPAP CEARAC FPM13
25-26 August 2015**

CEARAC Activities for 2014-2015

Activity	
Meetings	FPMs (12 th &13 th) and Expert Meeting
Web Maintenance	Update of information Upgrade of Marine Environmental Watch System
<Projects>	
- Marine Biodiversity	- Pilot assessment on the impacts of major threats to marine biodiversity in the selected sea areas
- Eutrophication	- Trial application of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment
- Seagrass mapping	- Case studies on seagrass mapping in the selected sea areas
Cooperation & Coordination	Participation and/or joint organization of meetings, workshops, etc.
Marine litter	- Compilation/Harmonization of monitoring data - Case study report on basin-wide collaborative actions to prevent land-based marine litter input in Japan

2

12th FPM

(2-3 July 2014)

- ◆ Acknowledged outcomes of CEARAC activities for 2012-2013
- ◆ Reviewed the progress of CEARAC activities for 2014-2015
 - * Late adoption of workplan/budget at IGM18 (Dec. 2013) & EO IGM1 (Apr. 2014)
 - suspension of work at the beginning of 2014

3

The 4th CEARAC Expert Meeting

(24 August 2015)

◆ Presentations on current CEARAC activities

- Pilot assessment on the impacts of major threats to marine biodiversity in the selected sea areas in the NOWPAP region
- Trial application of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment
- Case studies on seagrass mapping in the selected sea areas in the NOWPAP region

4

Specific Projects

- ◆ Pilot assessment on the impacts of major threats to marine biodiversity in the selected sea areas in the NOWPAP region → [regional report](#)
- ◆ Trial applications of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment → [potentially eutrophic map in the NOWPAP region](#)
- ◆ Case studies on seagrass mapping in the selected sea areas in the NOWPAP region
 - [web-based seagrass distribution map](#)

5

Website Maintenance

- ◆ Information update
 - HAB Integrated website (info. on red tide events)
 - Marine Environmental Watch System (potentially eutrophic zone in the NOWPAP region)
- ◆ Annual CEARAC newsletter (in English and Japanese)

6

Cooperation and Coordination

◆ CEARAC staff attended in 2014:

- DINRAC FPM 12 (June)
- MERRAC FPM 17 (June)
- POMRAC FPM 12 (September)
- NOWPAP International Coastal Cleanup (ICC)
(Sep., Korea)
- PICES Annual Meeting (Oct., Korea)
- 8th Nature without Borders Int'l Environmental Forum
(Oct., Russia)
- 19th NOWPAP IGM (Oct., Russia)
- 11th International Seagrass Biology Workshop
(Nov., China)
- 11th Japan Korea Workshop on Ocean Color
(Dec., Korea)

7

◆ CEARAC staff attended/will attend in 2015:

- DINRAC FPM 13 (July)
- PICES Annual Meeting 2015 (15-25 Oct. China)
 - * Co-convening 1-day workshop (16 Oct)
(W2: identifying major threats to marine biodiversity and ecosystems in the North Pacific)
 - * Presenting CEARAC activity on pilot assessment on the impacts of major threats to marine biodiversity in selected sea areas in the NOWPAP region

8

Activities on marine litter

- ◆ Regular work: Compiling/harmonizing marine litter monitoring data on beaches
- ◆ New work: developing a case study report on basin-wide collaborative actions to prevent land-based marine litter input in Japan

9

Budget & Expenditure for 2014-2015

Activity	Budget	Expenditure (US\$)		
	Total	2014	2015	Balance
2 FPMs & EM	54,000 + external	23,307	0	30,693
Web Maintenance	3,000 + In-kind	1,470 + In-kind	0	1,530
<Projects>				
Marine BD	24,000	0	6,000	18,000
Eutrophication	20,000	0	0	20,000
Seagrass mapping	20,000	0	4,000	16,000
Cooperation	4,000	2,251	62	1,687
Total	125,000	27,028	97,972	125,000
Marine litter	6,000 + In-kind	In-kind	0	6,000 + In-kind
Grand Total	131,000	27,028	10,062	93,910

10

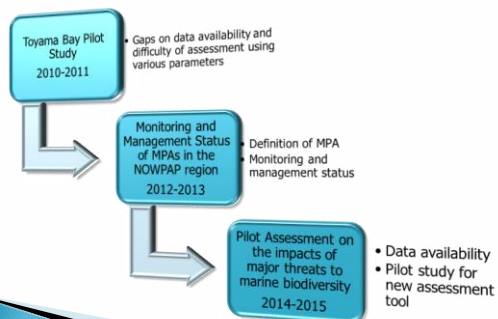


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Pilot assessment of the impacts of major threats to marine biodiversity in the selected sea areas in the NOWPAP region

NOWPAP CEARAC
13th CEARAC FPM,
25-26 August, 2015

CEARAC Activities on Marine Biodiversity



2

Pilot assessment of major threats to marine biodiversity in the selected sea areas in the NOWPAP region

Objective:

- To clarify available data on major pressures to marine biodiversity: eutrophication; non-indigenous species and habitat alteration
- To understand the current situation of pressures using the available data

Originally, CEARAC has used "threat" for this activity. However, "threat" is a strong wording, and "pressure" is usually used in UNEP/CBD reports. Therefore, CEARAC Secretariat uses "pressure" instead of "threat".

3

Tasks

1. Selection of target sea areas for pilot assessment
2. Implementation of pilot assessment
3. Organization of a workshop to review assessment results
4. Preparation of a regional report on major pressures to marine biodiversity in the NOWPAP region

4

1. Selection of target sea areas and nomination of experts

Selected target sea areas

China: Coastal area of Yantai and Dalian

Japan: North Kyushu sea area and coastal area of Hokuriku region

Korea: Masan Bay (including Jinhae Bay) and Sihwa Lake

Russia: The Peter the Great Bay

Nominated experts

China: Dr. Bei Huang

Japan: NPEC

Korea: Dr. Young Nam Kim

Russia: Dr. Tatiana Orlova



5

2. Implementation of pilot assessment Development of data inventory

Data Inventory of China

Data Inventory of Japan

Data Inventory of Russia

6

2. Implementation of pilot assessment Pilot assessment of major pressures

- ▶ **Eutrophication**
- ▶ **Non-indigenous species**
- ▶ **Habitat alteration**
- ▶ **Impacts on marine biodiversity**

7

3. Organization of workshop

- ▶ Date: October 16, 2015, Qingdao, China
(during PICES Annual Meeting)
- ▶ PICES and NOWPAP Joint Workshop
"Identifying major threats to marine biodiversity and ecosystems in the North Pacific"
- ▶ Objective: to discuss common assessment indicators to understand the status of major pressures/stressors/threats to marine biodiversity and to identify future collaborations between PICES and NOWPAP

8

4. Preparation of a regional report on major pressures to marine biodiversity in the NOWPAP region

Table of contents

1. Introduction
2. Pilot assessment on the impacts of major pressures to marine biodiversity
3. Status of eutrophication in the NOWPAP region
4. Status of non-indigenous species in the NOWPAP region
5. Status of habitat alteration in the NOWPAP region
6. Impacts of major pressures to marine biodiversity in the NOWPAP region
7. Recommendations

9

Contents of Chapter 3, 4, 5, 6

Chapter 3, 4, 5 and 6 include following sub-chapters.

- I. Status of data availability in the NOWPAP region
- II. Outlook of each pressure in the NOWPAP region
- III. Status of each pressure in each member state

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Recommendations

- ▶ Recommendations on a new assessment tool

Basic concept of assessment tool

- Objective
- Potential common assessment indicators
- Assessment methodology

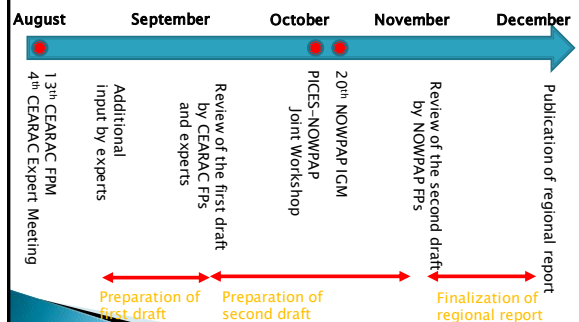
Assessment of eutrophication

Assessment of non-indigenous species

Assessment of habitat alteration

11

Future Schedule



12

Budget (revised)

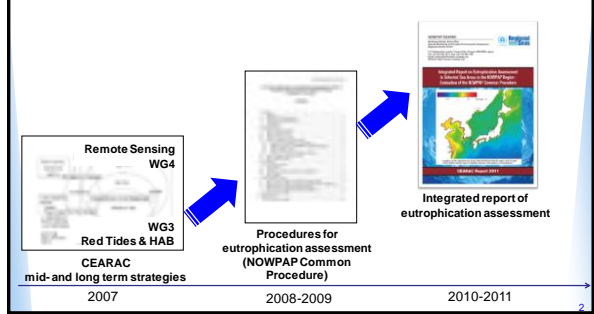
Task	Budget (USD)	
Organizing a workshop	10,000	
Preparing a regional report	2,000 5,000	
Implementing pilot assessment in each member state	China	3,000
	Japan	3,000 In-kind
	Korea	3,000
	Russia	3,000
Total	24,000	

Report of the activity on trial application of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment

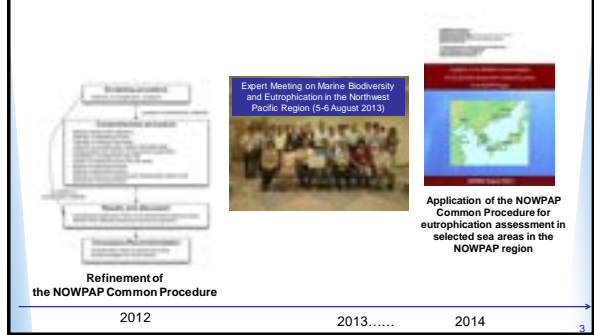
Genki Terauchi
NOWPAP CEARAC

August 25, 2015

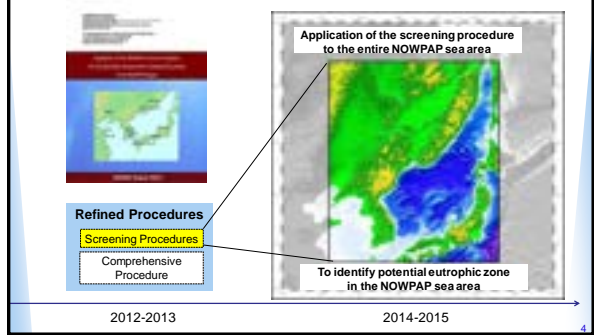
1. Background (past activities)



1. Background (past activities)



1. Background



1. Background (relation with NOWPAP MTS)

Theme 2. Regular assessments of the state of the marine environment
Expected accomplishment
 •Contributed to provide NOWPAP member states reliable information and analysis of the state of marine and coastal environment in the NOWPAP region, including (but not limited to) biodiversity, **eutrophication**, harmful algal blooms, chemical pollution, marine litter, oil and HNS spills, invasive alien species, climate change impacts

Theme 3. Pollution prevention and reduction
Suggested activities
 •Contribute to collection of information and experiences on **the prevention and reduction of coastal and marine pollution** in NOWPAP member states
 •Contribute to setting pollution reduction targets

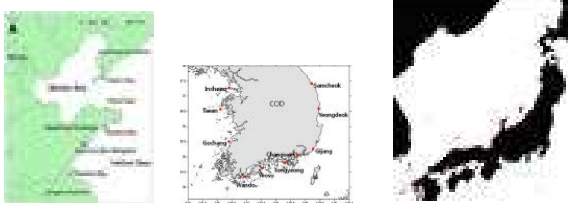
2. Objective

- To encourage autonomous use of the NOWPAP Common Procedure by the member states by applying the Screening Procedure of the refined NOWPAP Common Procedure **to the entire NOWPAP sea area** in order to **identify potential eutrophic zones** as well as to verify the suitability of the Screening Procedure

3. Main tasks

- 3.1.1 Collection and analysis of COD (or TOC) Trend

Country	Years	Stations
China	2005 - 2012	7
Japan	1970s - 2013	333
Korea	1998 - 2013	10
Russia	2010-2014	2



Locations of COD sampling stations in China, Korea and Japan

7

3. Main tasks

- 3.1.2 Collection of data and mapping of occurrences of red tides and hypoxia

Number of red tide events and fish kills

Country	Number of red tide events	Number of fish kill events
China	41	few
Japan	444	57
Korea	99	15
Russia	8	1

Number of hypoxia events and fish kills

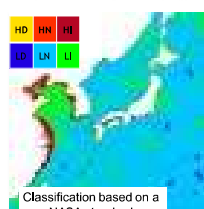
Country	Number of hypoxia events	Number of fish kill events
China	3	none
Japan	139	none
Korea	12	none
Russia	3	1

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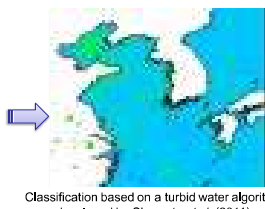
3. Main tasks

- 3.1.3 Development of satellite map of chlorophyll-a concentration (*in progress*)

A long term consistent data with 1 x 1 km to be provided to each member state soon



Classification based on a NASA standard

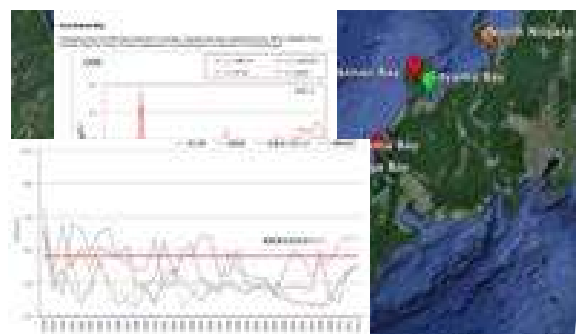


Classification based on a turbid water algorithm developed by Siswanto et al. (2011)

CEARAC will validate accuracy of newly processed satellite Chl-a data with the in situ Chl-a provided from each member country

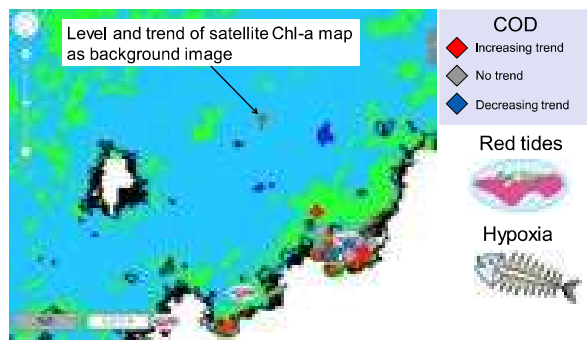
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3.2 Mapping potential eutrophic zoned in the NOWPAP region



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A WebGIS Prototype



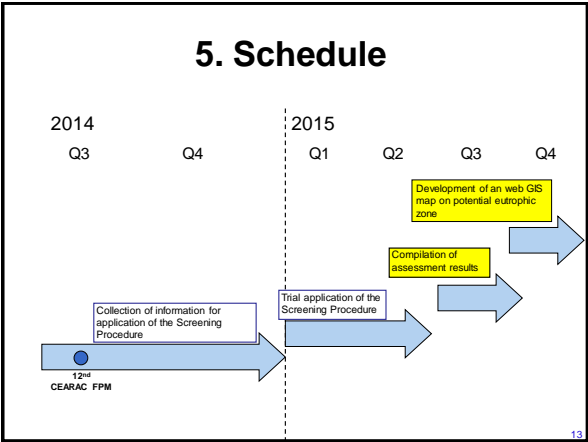
<http://ocean.nowpap3.go.jp/webgis/>

11

4. Expected outcome

- eutrophic zones in the NOWPAP region will be identified and visualized on a map.
- A web GIS map will be constructed on the Marine Environmental Watch Project and will be open to the public.

12



6. Budget

Task	Timing	Output	To be completed	Main body	Budget (US\$)
Trial application of the Screening Procedure of the NOWPAP Procedure*	2014 Q3	Assessment results based on the Screening Procedure of the refined NOWPAP Common Procedure	2015 Q2	Expert in China	4,000
				Expert in Japan	4,000
				Expert in Korea	4,000
				Expert in Russia	4,000
Preparation of an interactive web-based map on potential eutrophic zones in the NOWPAP region	2015 Q3-Q4	An interactive web-based map on potential eutrophic zones in the NOWPAP region	2015 Q3 to Q4	Experts in NOWPAP member states and CEARAC	4,000 8,000
Total					20,000

14

Report of case studies on seagrass mapping in selected sea areas in the NOWPAP region

Genki Terauchi
NOWPAP CEARAC

August 25, 2015

1. Background

Biome	Area (ha)	Total value per ha (gha ⁻¹ yr ⁻¹)	Total global flow value (10 ¹² gha ⁻¹ yr ⁻¹)
Estuaries	480	33,833	4,708
Seagrass/seaweed beds	200	19,004	3,801
Coral reefs	80	8,873	375
Shelf	1,400	1,800	4,380
Total marsh/mangroves	140	9,900	1,443
Total coastal biome	2,400	4,314	14,312
Tropical forest	1,900	3,067	3,813
Temperate/boreal forests	3,900	304	894
Total forest biome	4,800	309	4,707

Values of coastal biome is higher than terrestrial biome Costanza et al., (1997)

2

1. Background



Published in 2009
55% of CO₂ of the earth absorbed by aquatic biota

Relation with NOWPAP MTS

NOWPAP Medium Term Strategy
Theme 4 biodiversity conservation

Suggest activities
Contribute to developing habitat maps for coastal ecosystems using remote sensing and GIS techniques

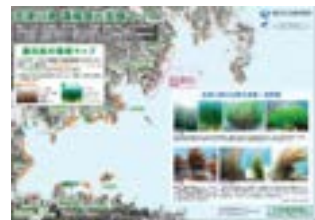
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1. Background

Assessment of damage on seagrass/seaweed by high resolution satellite images

Research period
July 2011 to March 2014

Sponsored by
Mitsui & Col, Ltd. Environment Fund



Providing maps to local municipality

4

2. Objective

- To develop a manual to derive a seagrass and seaweed distribution map with satellite images.
 - The developed manual will be applied and verified in selected case study areas in the NOWPAP member states.
 - The developed techniques are expected to contribute to building information infrastructure for conservation of marine habitat and serve as one of the major coastal environmental assessment tools in the NOWPAP region.

5

3. Main tasks

- 3.1 Development of a manual for seagrass and seaweed beds mapping with satellite images

Draft prepared by Dr. Teruhisa Komatsu, the University of Tokyo

Review done by national experts and CEARAC

A manual for Seagrass and seaweed beds distribution mapping with satellite images

Completed in March 2015

6

3. Main tasks

3.2 Mapping of seagrass and seaweed distribution in selected case study areas

Country	Experts	Selected sea area
China	Dr. Yang Dingfian State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanology, Chinese Academy of Sciences	Swan lake (Head of the Shandong Shandong peninsula)
Japan	NPEC	West part of Toyama Bay (Himi) Nanai Bay (West Bay)
Korea	Dr. Jong-Kuk Choi Korea Ocean Satellite Center, Korea Institute of Ocean Science and Technology	Jangheung Bay (Jangheung province)
Russia	Dr. Vasilii Zharikov Pacific Geological Institute, Far Eastern Branch of the Russian Academy of Science	Eastern section of the Far Eastern Marine Reserve (Southwest coastal area out of the Peter the Great Bay)

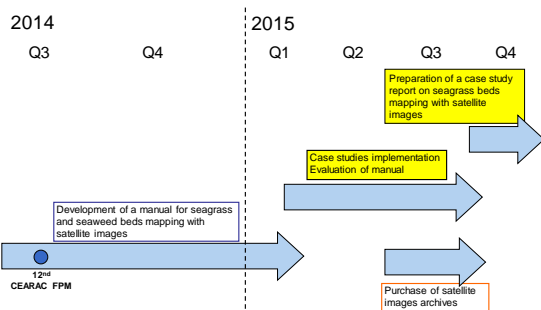
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4. Expected outcomes

- Case study results and the developed manual will be shared among coastal managers in the NOWPAP member states on CEARAC websites to help understand and conserve seagrass and seaweed beds that are important to [maintain marine biodiversity in the NOWPAP region](#)
- Developed manual provides [a cost effective method to map seagrass/seaweed distribution](#)
- First step for developing habitat maps for coastal ecosystems using remote sensing and GIS techniques proposed in the [NOWPAP MTS](#)

8

5. Schedule



9

6. Budget

Task	Timing	Output	To be completed	Main body	Budget (US\$)
Development of a manual for seagrass and seaweed beds distribution with satellite images	2014 Q3-Q4	Archives of high-resolution satellite images	2014 Q4	NPEC Consultant	4,000 (done)
Purchase of archives of high-resolution satellite images	2015 Q1	Archives of high-resolution satellite images	2015 Q1	CEARAC	4,000 (pending)
Case studies on seagrass and seaweed mapping in selected sea areas in the NOWPAP member states	2015 Q2 to Q3	Maps of seagrass and seaweed beds distribution in respective case study sea areas	2015 Q3	Expert in China	3,000
				Japanese Consultant	3,000
				Expert in Korea	3,000
				Expert in Russia	3,000
Organization of a workshop on seagrass and seaweed beds mapping in the Northwest Pacific region	2016 Q3	Report and proceeding of a workshop	2016 Q3	CEARAC	(15,000) Depends on budget
Total					20,000 (35,000)

10

Report on the implementation of CEARAC Marine Litter Activities in the 2014-2015 biennium

13th CEARAC FPM
25-26 August, 2015
NOWPAP CEARAC

1. Background

- 2012-2013 biennium
“Regional report on measures and best practices for prevention of marine litter input from land-based sources in the NOWPAP region”
“Best practices for prevention of marine litter input from land-based sources in the NOWPAP region”

River basin management is one of useful tools for prevention of marine litter input from land-based sources

2

2. Tasks

Specific project in 2014-2015 biennium

- Developing a report of case studies on basin-wide collaborative actions for prevention of marine litter input from land-based sources in Toyama, Japan

Regular task

- Compiling and harmonizing marine litter monitoring data on beaches and submitting the collected data to DINRAC

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2.1 Developing a report of case studies on basin-wide collaborative actions for prevention of marine litter input from land-based sources in Japan

Objective

To share information on prevention of land-based marine litter input in Toyama, Japan

Tasks

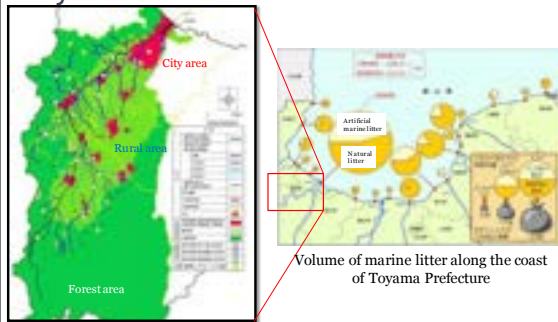
- Collecting information on basin-wide collaborative actions at river basin of Oyabe River in Toyama prefecture
- Preparing a report on case studies on basin-wide collaborative actions in Japan

Budget

6,000 US\$ (for printing, including English check)

4

Oyabe River basin



5

2.2 Compiling and harmonizing marine litter monitoring data on beaches and submitting the collected data to DINRAC

Objective

To compile and harmonize marine litter monitoring data implemented in the NOWPAP member states

Tasks

- Compiling monitoring data submitted from the member states
- Submitting harmonized data to DINRAC

Budget

In-kind

6

New Activity

Enhancing the Northwest Pacific Regional Node of the Global Partnership on Marine Litter

Objective

To enhance the Northwest Pacific Regional Node

- **Northwest Pacific Regional Node**

(http://www.npec.or.jp/NWPacific_node/)

- enhance awareness of prevention actions
- strengthen information exchange
- enhance knowledge of GPML



supported by Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)

7

Tasks

- Establishment of new page on micro plastics
- Partnership with “International Pellet Watch”
- Partnership with “Effects of marine debris caused by the great tsunami of 2011”
- Translation of Japanese reports into English
- Updating information on actions by central government, local governments and other entities

Budget

13,000US\$ (supported from GPA)

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Development of a common procedure for assessment of the impacts of major pressures on marine biodiversity in the NOWPAP region

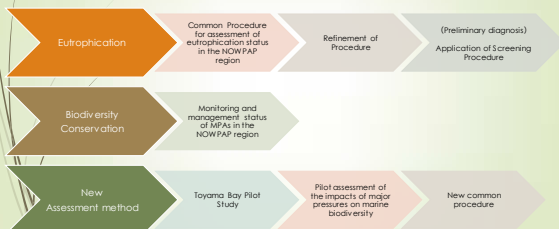
13th CEARAC FPM
25-26 August, 2015
NOWPAP CEARAC

1. Background

Movement on biodiversity conservation



1. Background Past activities of CEARAC



Development of a common procedure for assessment of the impacts of major pressures on marine biodiversity in the NOWPAP region

Overall objective

- To develop a common procedure for assessment of the impacts of major pressures on marine biodiversity to contribute to conservation of marine biodiversity

Objective in the 2016-2017 biennium

- To develop a draft common procedure

Basic concept of new common procedure

- Part I** [Basic Policy of marine biodiversity conservation in the NOWPAP region]
 - Basic idea of NOWPAP on marine biodiversity conservation
 - Final goal on marine biodiversity conservation in the NOWPAP region
 - Common themes and concerned issues
- Part II** [Procedure of the assessment]
 - Common indicators
 - Procedure of the assessment

Tasks

- Collection of information on marine biodiversity conservation in each member state
- Discussion on the basic policy of marine biodiversity conservation in the NOWPAP region
- Development of a draft assessment method
 - Selection of potential common indicators
 - Development of a draft common procedure
 - Review of the draft common procedure
- Organization of a workshop/expert meeting

1. Collection of information on marine biodiversity conservation in each member state

- Information to be collected
 - National Strategy, basic policy, performance target, goals, challenges and future actions of each member state
- Output
 - National report (by the end of 2016)

7

1. Collection of information on marine biodiversity conservation in each member state

Case of Japan

- The National Biodiversity Strategy of Japan (2012-2020)

Long-term target(2050): Through the maintenance and recovery of biodiversity and the sustainable use of its components, the current biodiversity in Japan will be enriched further and a society in harmony with nature will be achieved where humans can benefit from ecosystem services into the future

Short-term target (2020): In order to halt the loss of biodiversity, effective and urgent action will be taken with the aim of achieving the Japanese national targets towards the achievement of the Aichi Biodiversity Targets.

8

1. Collection of information on marine biodiversity conservation in each member state

- Direction to be pursued on biodiversity conservation in coastal area**
 - Restore the connection between people and the sea and the rich biotas that are inherent in coastal areas where the land is in contact with the sea
 - Restore coastlines so that people can approach and enjoy them, through prioritizing the conservation of existing neritic sea areas including tidal flats, salt marshes, seagrass beds and coral reefs and the conservation of natural coastlines, as well as through the restoration and creation of habitats for diverse organisms
 - Promote sustainable fisheries based on appropriate resource management
 - Revitalize sustainable fisheries in coastal areas through efforts for forest development in upstream areas, water quality improvement, etc.
 - Promote the conservation and restoration as well as the sustainable use of coastal areas which are safe, secure and in harmony with the natural environment, through the restoration of coastal disaster prevention forests, etc.
 - Promote the appropriate establishment of marine protected areas and the improvement of their management based on scientific knowledge, in order to work towards the above-described directions

9

2. Discussion on the basic policy of marine biodiversity conservation in the NOWPAP region

- Establishment of Working Group for discussing about the basic policy
 - Expected member of WG:**
 - CEARAC FPs, Expert of biodiversity, Representative of other RACs and RCU
 - Timing of meeting:**
 - Back-to-back with CEARAC FPM, Mar/Apr 2016 and Aug/Sep 2017
 - Expected outputs of the WG:**
 - Basic policy of marine biodiversity conservation in the NOWPAP region
 - Final goal of marine biodiversity conservation in the NOWPAP region



Concept of the procedure of the NOWPAP eutrophication assessment

10

3. Development of a draft assessment method

- CEARAC Secretariat will prepare the draft of common procedure (assessment methodology) based on pilot assessment and discussion of WG.
- Selection of the draft common indicators
 - Indicators which are available in the all member state
 - Indicators which are used by other international organization and project
 - Development of the draft common procedure



Basic flow of the procedure of NOWPAP eutrophication assessment

11

4. Organization of a workshop/expert meeting

- Objective
 - To review and discuss the draft basic policy, draft indicators and draft common procedure
- Timing
 - Q1-Q2 2017
- Expected participants
 - Experts of biodiversity, representative of RACs and RCU

12

Expected outputs

- NOWPAP Biodiversity Action Plan
- NOWPAP Medium-Term Strategy (2012-2017)
- Ecological Quality Objectives
- POMRAC activity (2014-2015)

13

Budget

Tasks	Budget (US\$)
Development of a draft common procedure	8,000
Collection of information on marine biodiversity conservation in each member state	China 3,000
	Japan In-kind
	Korea 3,000
	Russia 3,000
Organization of a workshop/expert meeting	13,000
Total	30,000

14

Schedule

The timeline shows the progression of NOWPAP activities. It starts with the 20th NOWPAP JGM in 2016, followed by the 14th CEARAC FFM in 2017. The 2018-2019 biennium includes a Workshop/Expert Meeting, Review of draft assessment procedure, and Discussion of basic policy. The 2020 New Common Procedure is also indicated.

15

Outline of the common procedure for assessment of impacts of major pressures on marine biodiversity

- Part I: Basic policy on marine biodiversity conservation in the NOWPAP region
 - National strategies and goals on marine biodiversity conservation in each member states
 - Priority and common concerned issues among the member states
 - Final goal on marine biodiversity conservation in the NOWPAP region
 - Roadmap to marine biodiversity conservation in the NOWPAP region
- Part II: Assessment method of impacts of major pressures on marine biodiversity
 - II-1: Outline of Assessment procedure
 - Objective of assessment, expected outputs
 - II-2: Assessment methodology
 - Assessment indicators, assessment method
 - II-3: Case studies/best practices

16

How to design the goal of NOWPAP marine biodiversity conservation

Which topics NOWPAP focus on?

OBIS, GBIF → All Species

Endangered Species, Common Species, NIS → Ecosystem

MPA, EBSA → Specific Species

Other

Which level is designated as NOWPAP goal?

National strategy of Country A

National strategy of Country B

National strategy of Country C

National strategy of Country D

Performance target

What country want to do

What country can do

Performance target

What country want to do

What country can do

Performance target

What country want to do

What country can do

Performance target

What country want to do

What country can do

Ideal goal

Realistic goal

17

Proposal for feasibility study towards assessment of seagrass in the NOWPAP region

Genki Terauchi
NOWPAP CEARAC

August 25, 2015

1. Background



Conservation of biodiversity



Mitigation of climate change

“Sustainable Development Goals (SDGs)” of Rio+20 (2012)

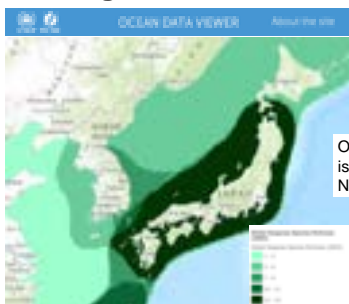
By 2020, conserve at least 10 percent of coastal and marine areas, consistent with national and international law and based on best available scientific information.

Aichi Biodiversity Target (Target 11)

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved.

2

1. Background



Website of UNEP World Conservation Monitoring Centre

“Best available scientific information on seagrass in the NOWPAP region?”

SDG to conserve 10% of coastal and marine area

On site information on seagrass is very poor in our region.
No use in spatial planning.

3

2. Objective

To investigate the feasibility for assessment of seagrass in the NOWPAP region, including identifying obstacles and required resources and/or tasks.

Providing useful information for member states to consider establishing 10 percent's marine protected areas in each member state in the NOWPAP region.

4

3. Main tasks

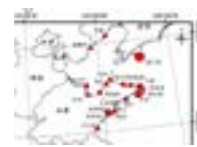
- 3.1 Development of a seagrass database in the NOWPAP region



5

- 3.1 Development of a seagrass database in the NOWPAP region

-Collection and updating existing information on seagrass in the NOWPAP region



Zheng, 2013

Seagrass and seaweed beds database of MOE, Japan

-Information to be collected-

- Observation date
- Location (latitude and longitude),
- Species
- Source of information



Ocean Biogeographic Information System

6

3. Main tasks

- 3.2 Preparation of inventory of satellite image data and estimation of analysis cost

Year	Satellite	Sensor	Resolution	Number of images
1972-1998	Landsat 1-5	MSS	60	81
1986-2008	Landsat 4-5	TM	30	21
200-2003	Landsat 7	ETM	30	11
2013-2015	Landsat 8	OLI	30	15
2000, 2004	IKONOS2		4	2
2010	Quickbird		2.4	1

Satellite images collected in the Nanao Bay case study



Cost for image analysis will be estimated for assessment of seagrass beds in the NOWPAP region

7

3. Main tasks

- 3.3 Review of literatures for assessment of seagrass habitats



Issue 47, March 2013



What are major threats to seagrass in the NOWPAP region?

Literature review by national experts



Identifying major threats for their monitoring and assessment.

8

3. Main tasks

- 3.4 Organization of International Workshop on assessment of seagrass in the Northwest Pacific region
 - Expected outcome-
Required actions for assessment of seagrass will be compiled. Structure and contents of a feasibility study report will also be discussed at the international workshop.
- 3.5 Publication of a feasibility study report
 - Based on the tasks from 3.1-3.4 and obtained knowledge through the past projects on eutrophication assessments, A feasibility study report including a draft workplan for assessment of seagrass in the NOWPAP region will be published by CEARAC.

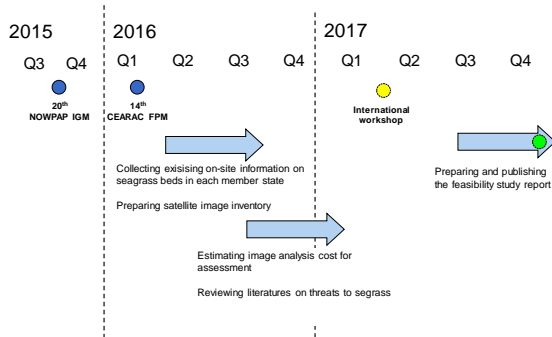
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4. Expected outcome

- Development of the seagrass database in the NOWPAP region will help mapping seagrass beds with satellite images in the future.
- A feasibility study report to be published includes identified resources and tasks required for assessment of seagrass, and it enables for CEARAC to mobilize a wide range of funding for the assessment.
- Collected information will also be contributed to Ocean Biogeographic Information System (OBIS) so as to increase information in worldwide as well as to be utilized for setting marine protected areas.

10

5. Schedule



11

6. Budget

Task	Time	Outcome	To be completed	Main body	Budget (US\$)
Collecting existing on-site information on seagrass and developing a database	2016 Q2	- A database of seagrass in the NOWPAP region - List of parameters for assessment of threats to seagrass	2016 Q3	Expert in China	4,000
				Consultant in Japan	4,000
				Expert in Korea	4,000
				Expert in Russia	4,000
Preparing inventory of satellite image	2016 Q4	- Inventory of satellite images to be used to estimate seagrass beds distribution - Estimation of image analysis cost	2017 Q1	CEARAC	4,000
Organizing International Workshop	2017 Q1-2	- Proceedings of International Workshop	2017 Q1-2	National experts and CEARAC	15,000
Preparing and publishing report	2017 Q3	- A feasibility study report including draft workplan for assessment of seagrass in the NOWPAP region	2017 Q3-4	CEARAC	5,000
Total					40,000

12

Workplan and budget of CEARAC Marine Litter Activities in the 2016-2017 biennium

13th CEARAC FPM
25-26 August, 2015
NOWPAP CEARAC

1. Background

• Northwest Pacific Regional Node

(http://www.npec.or.jp/NWPacific_node/)

- enhance awareness of prevention actions
- strengthen information exchange
- enhance knowledge of GPML

supported by Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)

In 2015, Japanese information will be added with financial support by GPA



2

2. Tasks

Specific project

- Enhancing the Northwest Pacific Regional Node with Chinese, Korean and Russian information

Regular task

- Compiling and harmonizing marine litter monitoring data on beaches and submitting the collected data to DINRAC

3

2.1 Enhancing the Northwest Pacific Regional Node

Objective

To add information on the other NOWPAP member states (China, Korea and Russia) to the Northwest Pacific Regional Node

Tasks

- Collecting information on prevention on marine litter input in China, Korea and Russia by nominated experts
- Updating the collected information in the regional node

Budget

6,000 US\$ (MoU with expert, US\$2,000/each state)

4

2.2 Compiling and harmonizing marine litter monitoring data on beaches and submitting the collected data to DINRAC

Objective

To compile and harmonize marine litter monitoring data implemented in the NOWPAP member states

Tasks

- Compiling monitoring data submitted from the member states
- Submitting harmonized data to DINRAC

Budget

In-kind

5

Draft Workplan and Budget of CEARAC Activities for the 2016-2017 biennium and Recommendation to the 20th NOWPAP IGM

NOWPAP CEARAC FPM13
25-26 August 2015

Proposed CEARAC Activities for 2016-2017 biennium

- ◆ 2 FPMs and 1 Expert Meeting
- ◆ Maintenance of Websites
- ◆ Specific Projects
 - Development of a common procedure to assess the impacts of major pressures on marine biodiversity in the NOWPAP region
 - Feasibility study towards assessment of seagrass in the NOWPAP region
- ◆ Cooperation and Coordination
- ◆ Marine litter

2

FPMs and Expert Meeting

- 14th FPM - spring 2016
 - to review the progress of planned activities
- 15th FPM - September 2017
 - to review progress of on-going activities
 - to discuss a draft workplan for 2018-2019
- Expert Meeting - summer 2017
 - to report results of on-going activities
 - to exchange opinions on potential activities for 2018-2019

3

Maintenance of Websites

- Renewal of the structure to be more user-friendly style, including updated information/data



4

Specific Projects in 2016-2017

2014-2015	2016-2017
<ul style="list-style-type: none"> ◆ Pilot assessment on the impacts of major threats on marine biodiversity ◆ Trial application of the screening procedure of the NOWPAP Common Procedure ◆ Case studies on seagrass mapping 	<ul style="list-style-type: none"> ◆ Development of a common procedure to assess the impacts of major pressures on marine biodiversity ◆ Feasibility study towards assessment of seagrass

5

Cooperation and Coordination

Potential areas of work and partners

- marine biodiversity with DINRAC, NEASPEC, PICES, and IOC/WESTPAC
- Seagrass mapping with IOC/WESTPAC
- HAB with PICES and IOC/WESTPAC

6

Marine Litter Activities (RAP MALI)

- **Regular work**
Harmonizing/summarizing monitoring data from the member states and submitting to DINRAC
- **New work**
Updating website contents of the Northwest Pacific Regional Node

7

Budget plan (US\$140,000)

Activity	Planned Budget (US\$)		
	2016	2017	Total
FPMS (14 th & 15 th) + Expert Meeting	27,000	27,000+ external	54,000+ external
Website Maintenance - Structure renewal including info. update	6,000+ In-kind	6,000+ In-kind	12,000
<Developing a common procedure to assess the impacts of major pressures on marine BD> - Developing a draft common procedure - Collecting information in each state - Organizing a workshop or expert MT	8,000	9,000 13,000	30,000
<Feasibility study for assessing> - Developing literature database - Developing inventory of satellite images - Organizing international workshop - Developing regional report	16,000 4,000	15,000 5,000	40,000
Cooperation/Coordination	2,000	2,000	4,000
Total	63,000	77,000	140,000

8



9

Collaboration with other RACs and other regional/international Organizations

NOWPAP CEARAC FPM13
25-26 August 2015

Strengthening partnership by

- **Exchanging/sharing info. & data**
 - Expanding knowledge/understanding on the status of the marine environment
 - Applying techniques/tools developed by other organizations and avoiding unnecessary duplication of activities
- **Organizing joint events**
 - Saving limited budget
 - Increasing opportunities to meet with researchers in partner organizations

2

Expected collaboration areas

CEARAC's activity	Relevant activities/groups in other organizations
Marine BD	<ul style="list-style-type: none"> - DINRAC (database, invasive species, red list) - IOC/WESTPAC (invasive species) - NEASPEC (MPA Network) - PICES (WG28: Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors, WG32: Biodiversity of Biogenic Habitats)
Seagrass mapping	<ul style="list-style-type: none"> - DINRAC (Database, WebGIS) - IOC/WESTPAC (capacity building)

3

CEARAC's activity	Relevant activities/groups in other organizations
HAB	<ul style="list-style-type: none"> - DINRAC(Marine Environment Data) - IOC/WESTPAC - PICES (S-HAB: Section on Ecology of Harmful Algal Blooms in the North Pacific, NOWPAP-PICES Study Group)
Marine Litter	<ul style="list-style-type: none"> - NPEC (Northwest Pacific Regional Node of the Global Partnership on Marine Litter) - International organizations, local governments, NGOs, academia, private sector, civil society, and individuals

4

Joint PICES-NOWPAP Study Group on Scientific Cooperation in the North Pacific (SG-SCOOP)

Co-Chair: Dr. Chuanlin Huo (PICES)
Dr. Alexander Tkalin (NOWPAP)

Member: (PICES) Chair of SB, MEQ, MONITOR, TCODE, and PICES Secretariat
(NOWPAP) NOWPAP RCU and Representative of RACs



ToR

1. Review existing and planned scientific activities of each organization
2. Develop a list of potential areas of cooperation
3. Convene a meeting/workshop for the following purpose
 - (a) to improve understanding of the scientific activities of each organization

5

- (b) to review scientific topics from ToR (1) to identify areas of common interest
- (c) to develop a framework for cooperation between NOWPAP and PICES that lists categories of joint activities and the rationale for each, including the benefits to each organization from the joint activity, and to identify priorities for joint activities within categories
- (d) to recommend processes for implementing ToR (3)
- (e) to recommend approaches to develop a strategic plan for cooperation and mechanisms to periodically update that plan
4. Prepare a final Study Group report for distribution by the NOWPAP-PICES Secretariat by fall 2015

6

Priority of topics for collaboration between PICES and NOWPAP			
Category	PICES	NOWPAP	Priority within the next 5 years
1-HAB	2	2	High
2-NIS	3	3	High
3a-EUT	2.5	3	High
3b-HYPOXIA	2.5	2	High
4-ESR	3	3	High
5-MarLitter	1.5	3	Low
6-MP/Oil/Chem	2	3	High
7-CC&ECOSY	3	1.5	Low
9-BIO Diversity	2.75	3	High
10-EBM	2	3	Low

