Report on CEARAC Activities for the 2014-2015 biennium

NOWPAP CEARAC FPM14
7-8 April 2016

CEARAC Activities for 2014-2015

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

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 at IGM18 (Dec. 2013) & EO IGM1 (Apr. 2014)

→ suspension of work in early 2014

The 4th CEARAC Expert Meeting
(24 August 2015)

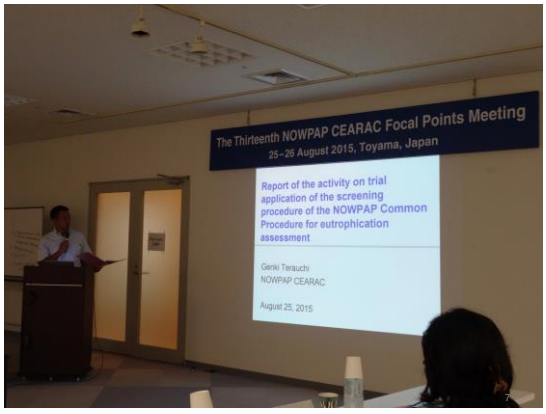
◆ **Presentations on current CEARAC activities**

- 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

13th FPM
(25-26 August 2015)

◆ Reviewed CEARAC activities for 2014-2015 biennium based on the presentations at the fourth expert meeting (24 August)

◆Discussed Workplan and Budget of CEARAC activities for 2016-2017 biennium to be submitted to IGM20 (October 2015)



Website Maintenance

◆Information update
- HAB and RS
- Marine Environmental Watch System (late)

◆ Annual CEARAC newsletter (in English and Japanese)

Specific Projects

◆ Pilot assessment on the impacts of major threats to marine biodiversity in the selected sea areas in the NOWPAP region
⟶ regional report (delayed)

◆Trial applications of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment
⟶ potentially eutrophic map (delayed)

◆Case studies on seagrass mapping in the selected sea areas in the NOWPAP region
⟶ case study (delayed)

Cooperation and Coordination 1/2

◆ CEARAC staff attended:
- DINRAC FPM (2014 and 2015)
- MERRAC FPM (2014)
- POMRAC FPM (2014)
- NOWPAP ICC (2014 and 2015)
- NOWPAP IGM (2014 and 2015)
- PICES Annual Meeting (2014 and 2015)
- Nature w/o Borders Int'l Environ. Forum (2014)
- International Seagrass Biology Workshop (2014)
- Japan Korea Workshop on Ocean Color (2014)
- Plant for the Ocean International Forum (2015)

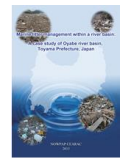
Cooperation and Coordination 2/2

◆ Other cooperative work
- Booklet on CEARAC
- Northwest Pacific Regional Node of the GPML (cooperation of RCU and NPEC)

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



Budget & Expenditure for 2014-2015

Activity	Budget Total	Final Expenditure (US$)		
		2014	2015	Total
2 FPMs & EM	54,000 + external	23,307	29,950	53,257
Web Maintenance	3,000 + In-kind	1,470 + In-kind	1,584	3,054
<Projects>				
Marine BD assessment	24,000	0	23,653	23,653
Eutrophication	20,000	0	20,000	20,000
Seagrass mapping	20,000	0	20,000	20,000
Cooperation	4,000	2,251	2,785	5,036
Total	125,000	27,028	97,972	125,000
Marine litter	6,000 + In-kind	In-kind	6,000	6,000 +In-kind
Grand Total	131,000	27,028	103,972	131,000

Thank you very much

Workplan and Budget of CEARAC Activities for the 2016-2017 biennium

NOWPAP CEARAC FPM14
7-8 April 2016

CEARAC Activities for 2016-2017

- ◆2 FPMs and 1 Expert Meeting
- ◆Maintenance of Websites
- ◆Specific Projects
  - Development of a draft 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

FPMs and Expert Meeting

- **14th FPM - April 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

Maintenance of Websites

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

Specific Projects in 2016-2017

2014-2015	2016-2017
◆Pilot assessment on the impacts of major threats on marine biodiversity	◆Development of a draft common procedure to assess the impacts of major pressures on marine biodiversity
◆Trial application of the screening procedure of the NOWPAP Common Procedure	◆Feasibility study towards assessment of seagrass
◆Case studies on seagrass mapping	

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 NWPacific Regional Node

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**

Budget (US$140,000)

Activity	Budget (US$)		
	2016	2017	Total
FPMs (14th & 15th) + Expert Meeting	27,000	27,000+ external	54,000+ external
Website Maintenance	6,000+ In-kind	6,000+ In-kind	12,000
Developing a draft common procedure to assess the impacts of major pressures on marine BD - Collecting information in each state - Developing a draft common procedure - Organizing a workshop or expert MT	9,000	 8,000 13,000	30,000
Feasibility study for seagrass assessment - 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	60,000	80,000	140,000

Thank you very much

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

14th CEARAC FPM
7-8 April, 2016
NOWPAP CEARAC

1. Background
Past activities of CEARAC

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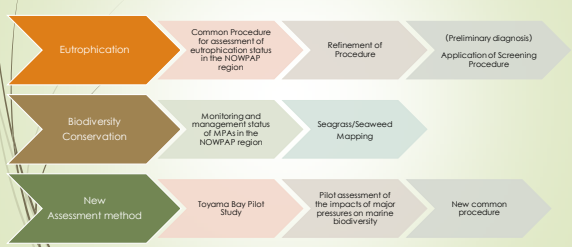

NOWPAP Eutrophication Common Procedure

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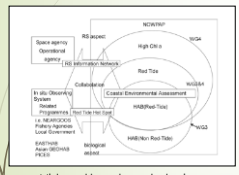

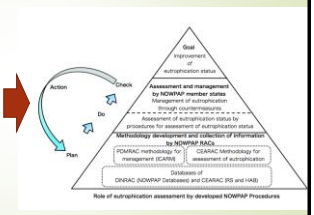

Mid- and long-term strategies of CEARAC and WG3/WG4

Current situation on marine biodiversity conservation in NOWPAP and other International Organizations

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Eutrophication

NOWPAP

CEARAC
Monitoring and management in MPA
Seagrass mapping
Pilot assessment

DINRAC
Red list of marine species
Atlas of NIS

POMRAC
Ecological Quality Objectives

NOWPAP MTS

Biodiversity

Collaboration

Aichi Target Strategic Goal B

National strategy of member states

Global and regional assessment
- WOA
- IPBES regional assessment

UNEP, CBD
IPBES, PICES
WESTPAC
YSLME etc.

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

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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 (NOWPAP Biodiversity Common Procedure)

Objective in the 2016-2017 biennium

- To develop a draft common procedure

Tasks

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1. Collection of information on national actions, strategies and policies for marine biodiversity conservation in each member state
2. Finalization of Pilot Assessment (2014-2015)
3. Development of a draft common procedure
   - 3.1 Setting a goal and a role of common procedure
   - 3.2 Selection of potential common indicators
   - 3.3 Development of a draft common procedure
4. Organization of an expert meeting

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

- Information to be collected

  National Strategies, basic policies, performance targets, goals, challenges and future actions of each member state
- Main body

  CEARAC FP or nominated expert
- Output

  National report (by the end of 2016)

Discussion at the expert meeting: Goal and role of new common procedure

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

EXAMPLE: Case of Japan

- The National Biodiversity Strategy 2012-2020 (2012)
- Basic Plan on Ocean Policy (2013)
- Marine Biodiversity Conservation Strategy (2011)

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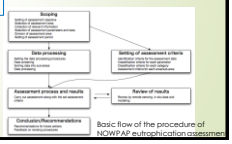
2. Finalization of Pilot Assessment (2014-2015)

In the 2014-2015 biennium
Pilot assessment of the impact of major threats to marine biodiversity

China: Dalian and Yantai Coastal area, Japan: North Kyushu and Hokuriku
Korea: Seamanguem Bay, Russia: The Peter the Great Bay

Regional report on pilot assessment
pilot assessment in each member states
Evaluation of pilot assessment
Recommendation

Framework of common procedure



Basic flow of the procedure of NOWPAP eutrophication assessment

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Table of contents of regional report

1. Introduction
2. Pilot assessment of the impacts of major threats to marine biodiversity
   - Objectives of pilot assessment
   - Data inventory of available data on three treats in each member state
   - Standards for assessment of status in each member state
   - Overview of status of three treats in each member state
3. Evaluation of pilot assessment
   - Differences among pilot assessments of each member state
   - Potential common indicators
   - Possible assessment procedures using available data
   - What is missing?
4. Recommendation
   - Necessary matters for developing NOWPAP Biodiversity Common Procedure
   - How to contribute to the Aichi Target as regional level
   - How to contribute to actions of each member state
   - How to collaborate with other project and activities (In particular, WOA and IPBES regional assessment)

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3. Development of a draft common procedure

Regional report

Goal and role of new common procedure

Basic concept

Other useful material

WOA
IPBES Sub-regional Assessment
PICES Ecosystem Indicator
etc.

NOWPAP Biodiversity Common Procedure

Objective: To conserve marine biodiversity in the NOWPAP region?
Indicators: Eutrophication, Non-indigenous species, Habitat alteration and other?
Assessment: Comparison? Occurrence? Trend?

Contribution to Aichi Target and national strategies

Reduce the impact to marine biodiversity

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4. Organization of a BD expert meeting

- Objective

  To discuss the goal/role/contents of NOWPAP Biodiversity Common Procedure
- Timing

  Option 1: Q4 2016

  (To finalize the regional report, and a draft common procedure will be reviewed at the 5th Expert Meeting to be held in Q3 2017)

  Option 2: Q1 2017

  (To review the first draft of common procedure, and the regional report will be reviewed through e-mail)
- Expected participants

  Experts of each member state, representatives of RACs and RCU, and other involved organizations

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Expected outputs

- To develop a draft common procedure for case study in the 2018-2019 biennium
- To understand the status of pressures on marine biodiversity
- To contribute to the national actions for achieving the Aichi Target
- To offer a direction for understanding of relationship between impacts and ecosystem/biodiversity

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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
	Korea 3,000
	Russia 3,000
Finalization of pilot assessment*	0
Organization of an expert meeting	13,000
Total	30,000

*Budget for publication of a regional report is already saved from the 2014-2015 budget, so it is not included in the chart.

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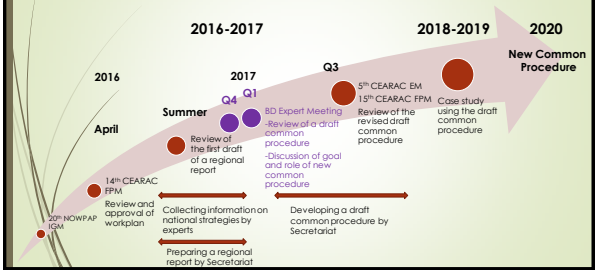
Schedule



Workplan and budget for feasibility study towards assessment of seagrass distribution in the NOWPAP region

Genki Terauchi
NOWPAP CEARAC

April 7, 2016

1. Background

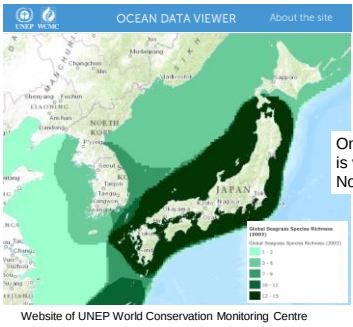
Conservation of biodiversity

Mitigation of climate change

"Sustainable Development Goals (SDGs)" of Rio+20 (2012)
By 2020, conserve at least 10 percent's 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.

1. Background



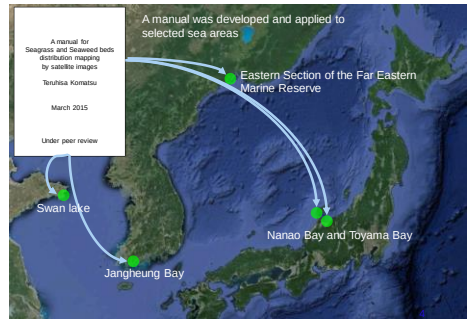
Website of UNEP World Conservation Monitoring Centre

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.

"Best available scientific information on seagarass in the NOWPAP region?

1. Background what's been done in 2014-2015 bieenium



2. Objective

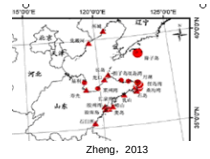
To investigate the feasibility for assessment of seagrass in the NOWPAP region, including identifying obstacles and required resources and/or tasks.

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

- **3.1 Review of literatures on seagrass distribution and threats to seagrass**

-Collection of existing information on seagrass distribution in the NOWPAP region

Seagrass and seweed beds database of MOE, Japan



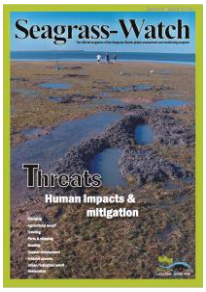
Zheng，2013

-Information to be collected-
- Observation date
- Location (latitude and longitude),
- Species
- Source of information

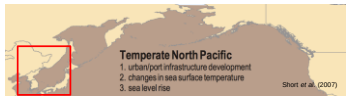
Ocean Biogeographic Information System

- **3.1 Review of literatures on seagrass distribution and threats to seagrass**

-Review of threats to seagrass in the NOWPAP region



Issue 47, March 2013



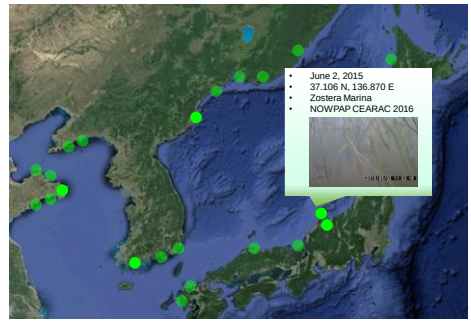
What are major threats to seagrass in the NOWPAP region?

Literature review by national experts

Identifying major threats for their monitoring and assessment.

3. Main tasks

- **3.2 Development of a seagrass database in the NOWPAP region**



3. Main tasks

- **3.3 Estimation of image 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

Formula for estimating cost of assessing seagrass distribution in the NOWPAP region

Total cost = A x B x C
A = Image analysis cost in each case study area
B = Sandy bottom area 20m below the surface of the sea
C = Turbidity

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.

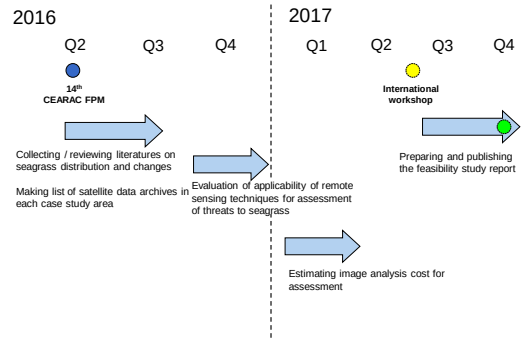
- **3.5 Publication of a feasibility study report**

-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.

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.

5. Schedule



6. Budget

Task	Time	Outcome	To be completed	Main body	Budget (US$)
- Collecting and reviewing on seagrass distribution and their changes - Making list of satellite data archives in each case study area	2016 Q2	- List of literatures on seagrass distribution and changes in the NOWPAP region - List of available satellite images in selected sea areas in the NOWPAP region	2016 Q3	Expert in China	4,000
				Consultant in Japan	4,000
				Expert in Korea	4,000
				Expert in Russia	4,000
- Evaluation of applicability of remote sensing techniques for threats to seagrass	2016 Q4	- List of parameters for assessment of threats to seagrass	2016 Q4	CEARAC	-
- Estimating image analysis cost for implementing assessment	2017 Q1	- Estimation of image analysis cost	2017 Q2	CEARAC	4,000
- Organizing International Workshop	2017 Q2-3	- Proceedings of International Workshop	2017 Q2-3	National experts and CEARAC	15,000
Preparing and publishing report	2017 Q3	- A feasibility study report including draft workplan for assessment of seagrass distribution in the NOWPAP region	2017 Q3-4	CEARAC	5,000
Total					40,000

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

14th CEARAC FPM
7-8 April, 2016
NOWPAP CEARAC

1. Background

- **Northwest Pacific Regional Node** **(developed in 2014)**
  (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 2016, this website was updated by adding information on measures in Japan

Added information

- Measures implemented by central and local governments in Japan
- Report and law in English
- New contents on microplastics

International Pellet Watch (in Japanese)

Webpage on microplastics

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

2.1 Enhancing the Northwest Pacific Regional Node

Objective
Same as the Japanese case, 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 implemented by central and local governments in China, Korea and Russia by nominated experts
- Collecting reports and/or law on marine litter in English
- Updating information in the regional node

Budget
6,000 US$ (MoU with expert, US$2,000/each member)

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

Collaboration with other RACs and other regional/international Organizations

NOWPAP CEARAC FPM14
7-8 April 2016

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

Expected collaboration areas

CEARAC's activity	Relevant activities/groups in other organizations
Marine BD	- **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	- **DINRAC** (Database, WebGIS) - **IOC/WESTPAC** (capacity building)

CEARAC's activity	Relevant activities/groups in other organizations
HAB	- **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	- **NPEC** (Northwest Pacific Regional Node of the Global Partnership on Marine Litter) - International organizations, local governments, NGOs, academia, private sector, civil society, and individuals

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

   (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, an 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

Priority of topics for collaboration between PICES and NOWPAP

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

High

Low

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8

THANK YOU VERY MUCH

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