

1. Background

The Special Monitoring and Coastal Environmental Assessment Regional Activity Centre (CEARAC) is one of the four Regional Activity Centres (RACs) to coordinate activities relevant to specific components of the Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Action Plan (NOWPAP). CEARAC was founded in 1999 and is hosted by the Northwest Pacific Region Environmental Cooperation Center (NPEC), which was established in 1998 in Toyama, Japan.

Following the Resolution of the 7th Intergovernmental Meeting (IGM) (March 2002, Vladivostok, Russia), which allows NOWPAP to evolve toward a RAC-based rather than an Activity-based structure, the CEARAC Focal Points Meeting (FPM) was established in order to promote smooth and effective implementation of special monitoring and assessment of the marine and coastal environment. In accordance with the decision of the 1st CEARAC FPM (February 2003, Toyama, Japan) that defined the priorities and initial steps of CEARAC activities, CEARAC has been working on monitoring and assessment of Harmful Algal Blooms (HAB) under Working Group 3 (WG3), and the development of new monitoring tools using Remote Sensing (RS) under Working Group 4 (WG4).

Since 2008, eutrophication has emerged as one of the target areas of CEARAC activities. Also, taking into account increase in global focus and Aichi Targets of CBD COP 10 (October, 2010, Nagoya-Aichi, Japan), marine biodiversity has become another focus on CEARAC activities. Because of the expansion of such new working areas, past WG3 and WG4 Meetings were combined into an Expert Meeting on Eutrophication and Marine Biodiversity consisting of the experts of WG3 and WG4. The terms of reference of CEARAC was revised to add eutrophication and marine biodiversity as its focus activities in 2012.

The activities of CEARAC in the workplan such as CEARAC FPMs, Expert Meetings, specific projects and other activities are funded by the NOWPAP Trust Fund supplemented by in-kind contribution from NPEC which is originated from the support of the Ministry of the Environment, Japan, Toyama Prefectural Government and other external sources. The operation of CEARAC is financially supported by Toyama Prefectural Government, including personnel salaries and other miscellaneous costs.

CEARAC is operated by the following staff members.

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2. Report on the implementation of planned activities and budget of CEARAC for the 2012-2013 biennium

In accordance with the approval by the 16th NOWPAP IGM (20-22 December 2011, Beijing, China), CEARAC has been implementing its activities for the 2012-2013 biennium with the budget of US\$ 112,000. Major activities on and after the last FPM held in April 2012 are summarized as follows.

2.1. Organization of meetings

2.1.1. 10th CEARAC Focal Points Meeting

The 10th CEARAC FPM was held on 17-18 April 2012 in Toyama, Japan. The CEARAC FPs, representatives of NOWPAP RCU and RACs, and others participated in the meeting. In the FPM, discussed and adopted were report on the implementation and expenditure of CEARAC activities for the 2010-2011 biennium, workplan and revised budget for CEARAC activities for the 2012-2013 biennium, as well as proposal for revising Terms of Reference for the NOWPAP CEARAC FPM. Besides, development of the second "State of Marine Environmental Report for the NOWPAP Region" (SOMER-2), a collaborative work lead by POMRAC in collaboration with all the other RACs, was also discussed.

2.1.2. Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific Region

The Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific Region was held on 5-6 August 2013 in Toyama, Japan. Experts on marine biodiversity, eutrophication and seagrass/seaweed mapping in the NOWPAP region participated in the meeting as well as representatives of NOWPAP RCU and PICES. At the meeting, progress of on-going CEARAC activities in the 2012-2013 biennium on marine biodiversity and eutrophication was presented and reviewed. Also, relevant activities on seagrass/seaweed mapping were introduced by experts. Then, CEARAC presented draft proposals of activities on marine biodiversity, eutrophication and

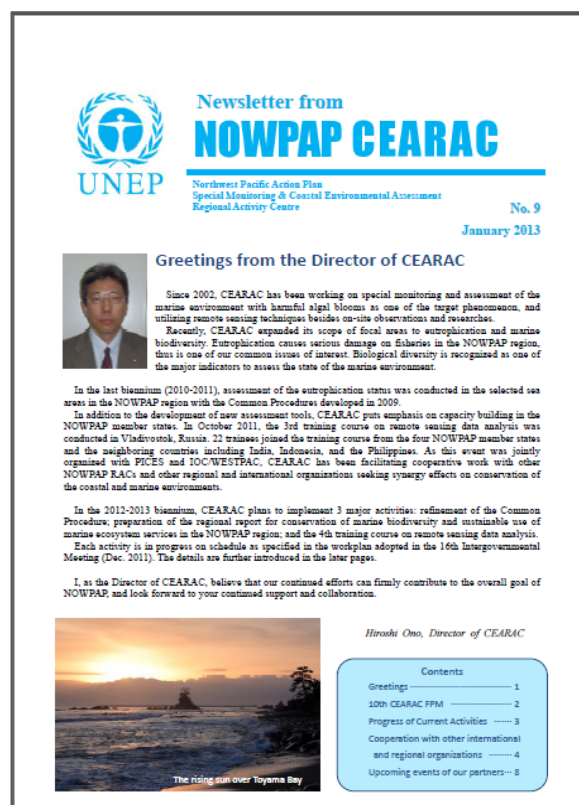
seagrass/seaweed mapping for the 2014-2015 biennium and the participants provided various suggestions for their improvement. Taking into account the suggestions at the meeting, CEARAC has elaborated the draft proposals and presented them to the 11th FPM.

2.2. Maintenance of CEARAC websites

CEARAC regularly updated information on HAB occurrences and references in the HAB Integrated website, educational materials, website links, and reference in NOWPAP Ocean Remote Sensing Portal.

Website of Marine Environmental Watch System was renewed with upgrade of the system. The work was conducted by in-kind support by the Ministry of the Environment of Japan.

In 2012, as one of its effective and efficient outreach attempts, CEARAC started electric distribution of CEARAC annual newsletters and terminated their hard copy distribution. The newsletters were distributed to NOWPAP FPs, NOWPAP RCU, CEARAC FPs, other RACs, relevant organizations and experts as well as posted on the CEARAC website.



CEARAC Newsletter No.9

2.3. Specific Projects

2.3.1. Preparation of the regional report for conservation of marine biodiversity and sustainable use of marine ecosystem services in the NOWPAP region

CEARAC collected information on marine protected areas (MPAs) in the NOWPAP Region making use of the database on MPAs compiled by NOWPAP DINRAC. CEARAC, in collaboration with NEASPEC, held NOWPAP/NEASPEC Joint Workshop on Marine Biodiversity Conservation and Marine Protected Areas in the Northwest Pacific on 13-14 March 2013 in Toyama, Japan to exchange information of MPAs in

each member state. In the workshop, experts engaged in the specific project presented monitoring and management status of MPAs while government officials introduced the classifications and regulations for MPAs in each member state.

Based on the collected information and research results, CEARAC developed a draft Regional Report on Marine Biodiversity Conservation and Sustainable Use of Marine Ecosystem Services in the NOWPAP Region, and circulated among the participants of the Expert Meeting (5-6 August 2013) for review. CEARAC is elaborating the regional report incorporating the additional information provided from experts and suggestions provided in the expert meeting for improvement of the contents. It will be completed by the end of 2013.

2.3.2. Refinement of the NOWPAP Common Procedure for eutrophication assessment towards the assessment of the whole NOWPAP region

Based on the assessment results of eutrophication status in selected case study areas and suggestions for improvement of the NOWPAP Common Procedure by contracted experts, CEARAC revised the NOWPAP Common Procedure developed in 2009. In the 2012-2013 biennium, the same experts applied it to case study areas (Jiaozhou Bay - China, Northwest Kyushu sea area and Toyama Bay - Japan, Jinhae Bay - Korea, and the Peter the Great Bay - Russia) in order to verify the applicability of the refined NOWPAP Common Procedure. The assessment results were presented and reviewed at the expert meeting in August 2013.

CEARAC has also been working to develop a regional overview of the eutrophication assessment in the NOWPAP region. The outline of the regional overview was presented at the expert meeting. The report will be completed by the end of 2013.

2.3.3. Organization of the fourth NOWPAP training course on remote sensing data analysis

The 4th NOWPAP Training Course (NOWPAP-PICES Joint Training Course on Remote Sensing Data Analysis) will be held on 21-25 October 2013 at Ocean University of China in Qingdao, P. R. China. There were 73 applicants for the course, from the NOWPAP member states, other Asian countries, Africa, Europe, North and South America and Middle East by the deadline (end of June). The organizing committee selected 23 trainees including 5 funded trainees (funded by CNEMC, IOCCG and PICES) and 18 self-funded trainees. Lecturers from the NOWPAP member states,

Germany and the US will give lectures on remote sensing techniques for monitoring and assessment of marine environment including Introduction to ocean color remote sensing, validation, time series analysis of ocean colour data and preliminary eutrophication assessment by remote sensing.

2.4. Cooperation and coordination with other NOWPAP RACs and regional/international organizations

Taking every opportunity, staff members of CEARAC participated in related meetings and events organized by other RACs and regional/international organizations to exchange information and disseminated CEARAC activities.

2.4.1. Events CEARAC held/will hold in 2013 in collaboration with other NOWPAP RACs and regional/international organizations

- NOWPAP/NEASPEC Joint Workshop on Marine Biodiversity Conservation and MPAs in the Northwest Pacific (13-14 March, Toyama, Japan) participated by experts on marine biodiversity and governmental officials in the NOWPAP member states, and representatives of PICES, HELCOM and IOC/WESTPAC
- Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific Region (5-6 August, Toyama, Japan) participated by experts on marine biodiversity, eutrophication, and seagrass/seaweed mapping in the NOWPAP member states, and representatives of PICES
- NOWPAP-PICES Joint Training Course on Remote Sensing Data Analysis (21-25 October, Qingdao, China) participated by students and young researchers from the NOWPAP member states, Cameroon, Canada, India, Oman and Yemen

2.4.2. Events CEARAC participated/will participate in 2013

- The 16th NOWPAP MERRAC FPM (17-21 June, Incheon, Korea)
- The 11th NOWPAP DINRAC FPM (24-25 July, Beijing, China)
- PICES 2013 Summer School on Ocean Observing Systems and Ecosystem Monitoring (19-23 August, Oregon, U.S.A.)
- The 11th NOWPAP POMRAC FPM (9-10 October, Tianjin, China)
- PICES 2013 Annual Meeting (11-20 October, B.C., Canada)
- NOWPAP ICC and Workshop (24-26 October, Okinawa, Japan)
- The 18th NOWPAP IGM (4-6 December, Toyama, Japan)

2.4.3. Contribution to the State of Marine Environment Report (SOMER-2) lead by POMRAC

CEARAC has been contributing to the drafting of some subchapters (primary production, sustainable use of the biological resources, nutrient and organic matter excessive inputs - HAB, eutrophication and hypoxia, and marine litter). The manuscripts of each chapter were submitted to POMRAC in 2013.

2.5. Activities on RAP MALI

2.5.1. Regular work: Compilation of marine litter monitoring data on beaches

CEARAC compiled and harmonized marine litter monitoring data on beaches and submitted the collected data to DINRAC while sharing this information on current status of marine litter in the NOWPAP region among member states.

2.5.2. Specific work: Compilation of information on government measures and best practices for prevention of marine litter input from land-based sources in the NOWPAP member states

CEARAC compiled information on government measures and best practices for prevention of marine litter input from land sources in the NOWPAP member state, including cooperation between central and local governments and other entities, and developed a regional report in English. (http://www.cearac-project.org/MALITA/Regional_report_on_best_practice.pdf).

In addition, making use of small-scale funding from Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) of UNEP, CEARAC is preparing the outline of the abovementioned report in four languages of

NOWPAP member states (Chinese, Japanese, Korean and Russian). The outline will be distributed at the NOWPAP ICC and the meeting of the Association of North East Asia Regional Governments to be held in October.



2.6. Others

Together with experts from NOWPAP member states and with the guidance of NOWPAP RCU, CEARAC submitted a summary proposal on the assessment of hypoxic zones and their impacts on marine ecosystems in the Northwest Pacific region in response to the APN 2013 Calls for proposals under the Annual Regional Call for Research Proposals in early August 2013. If approved, this project and the CEARAC's eutrophication project will be mutually supportive.

3. Budget and expenditures of CEARAC activities for the 2012-2013 biennium

As shown in Table 1, the approved budget is expected to be spent as planned.

Table 1 Planned budget and tentative expenditures of CEARAC for the 2012-2013 biennium (in USD)

Activities	Planned Budget (in USD)			Expenditures (Expected) (in USD)		
	In 2012	In 2013	Total	In 2012	In 2013	Total
2 FPMs and 1 Expert Meeting	27,000	27,000	54,000	20,444	33,556	54,000
Web Maintenance Regular update of information	2,000	2,000	4,000	0	4,000	4,000
Specific projects < Marine Biodiversity > Preparing a regional Report	6,000	14,000	20,000	0	20,000	20,000
<Eutrophication > Refining the NOWPAP Common Procedure and implementing eutrophication assessment	16,000	4,000	20,000	0	20,000	20,000
<Remote Sensing > NOWPAP-PICES Joint Training Course	0	10,000	10,000	0	10,000	10,000
Cooperation/coordination	2,000	2,000	4,000	2,000	2,000	4,000
Upgrade of Marine Environmental Watch System		in-kind	in-kind		in-kind	in-kind
<u>TOTAL</u>	53,000	59,000	112,000	22,444	89,556	112,000

* Budget for implementing RAP MALL-related activities (US\$3,000) is excluded.