

1. Background

At the 11th CEARAC Focal Points Meeting (FPM) (11-12 September 2013, Toyama Japan), the Secretariat of CEARAC presented a draft workplan and budget of its activities for the 2014-2015 biennium with three specific projects: 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, and case studies on seagrass mapping in the selected sea areas in the NOWPAP region. After review and discussion, the workplan and budget for 2014-2015 were approved to be submitted to the 18th NOWPAP Intergovernmental Meeting (IGM) (4-6 December 2013, Toyama, Japan).

Because of the delayed approval of the workplan and budget of entire NOWPAP activities at the 18th IGM and the following first Extraordinary IGM (9-10 April, 2014, Seoul, Korea), there was some lag time at the beginning of 2014. Then, the Secretariat of CEARAC presented a modified workplan and budget to the 12th CEARAC FPM (2-3 July 2014, Toyama, Japan), which were reviewed and adopted by the meeting participants with some modifications.

At the 13th CEARAC FPM (25-26 August 2015, Toyama, Japan), while the Secretariat reported the progress of planned activities and explained uncompleted tasks for the rest of the biennium, attended FPs provided practical advice on how to complete the planned activities within a given timeframe, inter alia, how to analyze, translate and/or integrate collected data and information to bear fruitful outcomes and to build up a solid scientific basis for activities for the following biennia.

Some of the planned activities, however, were not completed until the beginning of 2016.

2. Activities for the 2014-2015 biennium

Summary of CEARAC activities for the 2014-2015 biennium is shown in Table 1.

Table 1 Workplan for CEARAC activities for the 2014-2015 biennium

Activity
<p>Organization of Meetings</p> <ul style="list-style-type: none"> - 12th FPM (2014) and 13th FPM (2015) - Expert Meeting (2015)
<p>Maintenance of Websites</p> <ul style="list-style-type: none"> - Regular update of contents (HAB Integrated Website and Ocean RS Portal Site) - Upgrade of Marine Environmental Watch System
<p>Specific projects</p> <p>Pilot assessments on the impacts of major threats to marine biodiversity in the selected sea areas in the NOWPAP region</p> <ul style="list-style-type: none"> - Implementing pilot assessments in the selected sea areas - Organizing a workshop - Preparing a regional report
<p>Trial application of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment</p> <ul style="list-style-type: none"> - Applying the screening procedure in the NOWPAP sea areas of each member state - Developing a web-based potential eutrophic map
<p>Case studies on seagrass mapping in the selected sea areas in the NOWPAP region</p> <ul style="list-style-type: none"> - Developing a manual for seagrass and seaweed mapping with satellite images - Implementing case studies in the selected sea areas
<p>Cooperation and coordination</p> <ul style="list-style-type: none"> - Exchanging/sharing latest information with other RACs and NOWPAP partners by attending and/or co-organizing meetings/workshops, and so on
<p>Marine litter-related activities (RAP MALI)</p> <ul style="list-style-type: none"> - Compiling/Harmonizing monitoring data and submitting data to DINRAC - Developing a case study report on basin-wide collaborative actions to prevent land-based Marine Litter input in Japan

2.1 Organization of Meetings (12th and 13th FPMs and Expert Meeting¹)

2.1.1 Twelfth NOWPAP CEARAC Focal Points Meeting (FPM12)

The twelfth NOWPAP CEARAC FPM was held on 2-3 July 2014 in Toyama, Japan. The meeting reviewed the workplan, which was revised in accordance with the

¹ Three meetings are explained in chronological order in the sub-chapters.

decisions of the 18th NOWPAP Intergovernmental Meeting (IGM) (December 2013) and the first Extraordinary NOWPAP IGM (April 2014), and the progress of on-going CEARAC activities. While the meeting recognized the tight schedule of the activities to be implemented and completed as planned, they expressed their expectation toward productive outputs/outcomes at the end of the biennium.

2.1.2 The Fourth CEARAC Expert Meeting

Prior to the thirteenth CEARAC FPM, the Fourth CEARAC Expert Meeting was held on 24 August 2015 in Toyama, Japan with the national experts who have been nominated by CEARAC FPs to implement specific projects of CEARAC for the 2014-2015 biennium. The experts presented the progress and the results of their activities, and joined discussion on how to utilize the outputs/outcomes of the current projects in the activities for the next biennium, 2016-2017.

2.1.3 Thirteenth NOWPAP CEARAC Focal Points Meeting (FPM13)

The thirteenth NOWPAP CEARAC FPM was held on 25-26 August 2015 in Toyama, Japan. Since all the participated FP were present at the fourth CEARAC expert meeting held on the previous day, they were well-informed on the progress of three major activities of CEARAC for the 2014-2015 biennium. At FPM13, while reviewing the entire on-going work of CEARAC and discussed proposed workplan for the 2016-2017 biennium, the meeting discussed how much work CEARAC could conduct within two years and make fruitful outputs from planned activities. Then, the meeting agreed to submit a draft workplan and budget for the 2016-2017 biennium to the twentieth intergovernmental meeting held in October 2015 in China for adoption.

2.2 Maintenance of CEARAC websites

CEARAC has done some routine work such as regular upload of latest information on HABs and remote sensing in order to improve the quality of the contents of CEARAC websites, so this work was conducted in the 2014-2015 biennium based on the collected information from the NOWPAP member states and relevant literature. Then, Information on red tide events collected through trial application of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment was added in the HAB Integrated Website.

In addition, annual CEARAC newsletters were uploaded on its website in English and Japanese to disseminate information on its past and current activities to wider public.

2.3 Specific Projects

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

CEARAC, through nominated national experts, conducted pilot assessments on the impacts of three major threats to marine biodiversity (eutrophication, non-indigenous species and habitat alteration) in the NOWPAP member states.

The results of the pilot assessment were presented at the Fourth CEARAC Expert Meeting (24 Aug.) as well as at a workshop held in 2015 PICES Annual Meeting (16 October, Qingdao, China) to share/disseminate information among researchers in the wider Pacific region.

After review and discussion of the draft contents at the 13th FPM, the title of the report was to be changed to “regional report on the impacts of major pressures to marine biodiversity in the selected sea areas in the NOWPAP region.”

Since an assessment report from Korea was delayed, the entire work was behind the schedule. All of the national reports have been harmonized, and then after refinement and review by the CEARAC FPs, a regional report will be published in summer in 2016.

2.3.2 Trial application of the screening procedure of the NOWPAP Common Procedure for eutrophication assessment

CEARAC, through nominated national experts, applied the screening procedure of the NOWPAP Common Procedure to the entire NOWPAP sea area in order to identify potential eutrophic zones in the NOWPAP region.

In the screening procedure, three parameters (trend in COD or TOC, frequencies of red tides and hypoxia events, and satellite derived chlorophyll-a concentration) were used.

Based on the assessment results of the member states, the Secretariat of CEARAC constructed a prototype of web-based map on potential eutrophic zones in the NOWPAP region in 2015 (See UNEP/NOWPAP/CEARAC/FPM 14/Ref.1). However, there were some errors found in the data processing of satellite chlorophyll-a and CEARAC was forced to start over the whole satellite data processing from the beginning.

Moreover, NASA announced release of better quality satellite datasets in late 2015, and it required additional time to download these newly released datasets.

At present, satellite chlorophyll-a map is being processed and a web-based map of potential eutrophic zones in the NOWPAP region is being prepared by CEARAC. The map will be open to the public in the third quarter of 2016.

2.3.3 Case studies on seagrass mapping in the selected sea areas in the NOWPAP region

CEARAC, through nominated national experts, implemented case studies of seagrass mapping in the selected sea areas in each member state. Prior to implementation of case studies, “a manual for seagrass and seaweed beds distribution mapping with satellite images” was developed by Dr. Teruhisa KOMATSU. This manual is under peer review and it will be open to the member states as soon as the review is done.

In accordance with the discussion at the CEARAC FPM 12, the project focused on distribution of seagrass, and the results of the case studies were presented at the Fourth CEARAC Expert Meeting (August 2015). Although there are some delay in the Japanese case study, all case study reports will be published in the second quarter of 2016.

2.4 CEARAC Activities on Marine Litter (RAP MALI)

CEARAC implemented two activities on marine litter (RAP MALI) as follows:

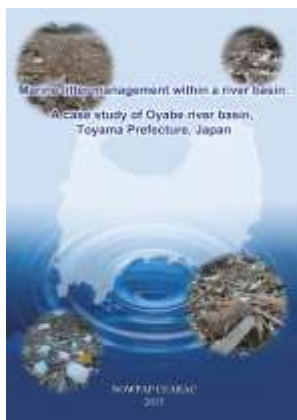
2.4.1 Collecting and summarizing national monitoring data from the member states

CEARAC continuously collected and harmonized/summarized monitoring data submitted from the member states to upload in DINRAC website and the Northwest Pacific Regional Node website as well.

2.4.2 Developing a case study report on basin-wide collaborative actions to prevent marine litter input from land-based sources in Japan

Preventing generation of litter in terrestrial areas is one important element to tackle marine litter, together with monitoring and removal of existing litter. Therefore, CEARAC studied basin-wide collaborative actions in Japan by focusing on collaborative activities among municipalities along Oyabe River in Toyama Prefecture and developed a report.

“Marine litter management within a river basin: A case study of Oyabe river basin, Toyama Prefecture, Japan” was published in 2015.



2.5 Cooperation, coordination with other NOWPAP RACs and/or regional/international organizations

CEARAC has tried to participate in events (e.g. meetings and workshops) held by NOWPAP RCU, other RACs and relevant regional/international organizations to exchange/share information and data and to find some chances for collaboration. Unfortunately, in 2015, the 18th MERRAC FPM was held at the same time of the Fourth Expert Meeting of CEARCA in August. Then, POMRAC did not hold its FPM in 2015.

While some staff member of the CEARAC Secretariat joined some events, they had much communication and information exchanges electrically last year.

2.5.1 Participated regional and international events

CEARAC staff participated in the following meetings and events in the 2014-2015 biennium.

- DINRAC FPM (2014 and 2015)
- MERRAC FPM (2014)
- POMRAC FPM (2014)
- NOWPAP ICC Campaign and Workshop (2014 and 2015)
- NOWPAP IGM (2014 and 2015)
- PICES 2014 Annual Meeting (2014 and 2015)
- Nature without Borders International Environmental Forum (2014)
- International Seagrass Biology Workshop (2014)
- Japan-Korea Workshop on Ocean Color (2014)
- Plant For the Ocean International Forum (2015)

PICES held its annual meetings in 2014 (Yantai, Korea) and in 2015 (Qingdao, China). Since one of the staff members of the CEARAC Secretariat is an ex-officio of HAB Section and a member of Study Group (SG-SCOOP) with NOWPAP and PICES researchers, he has participated in PICES Annual Meeting every year. In the 2015 meeting, he was a co-convenor of one workshop on marine biodiversity, and the contracted experts of CEARAC activity (Pilot assessment on the impacts of major threats to marine biodiversity in the selected sea areas in the NOWPAP region) joined the workshop to present their assessments.

2.5.2 Other cooperative activities

CEARAC has also been involved in local activities and events and published some booklets in Japanese and English to introduce the past and on-going activities of NOWPAP and CEARAC to local people.

- Northwest Pacific Regional Node of the GPML (website)

In the Northwest Pacific region, besides NOWPAP and central/local governments of each state, many non-governmental organizations (NGOs), such as JEAN and OSEAN, and many general public have implemented activities to resolve marine litter problems. In order to develop a network for efficiently sharing information among stakeholders and promoting actions to prevent of marine litter input, the GPML (Global Partnership on Marine Litter) Northwest Pacific Regional Node (http://www.npec.or.jp/NWPacific_node/) was established in 2014, co-hosted by NOWPAP Regional Coordinating Unit (RCU) and Northwest Pacific Environmental Cooperation Center (NPEC), host organization of CEARAC with support from Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA).

Since NOWPAP RCU has updated CEARAC with information on marine litter time by time, CEARAC has shared the given information with NPEC to help expanding its knowledge on marine litter.

- Booklet on introducing NOWPAP CEARAC

In 2014, to celebrate the 10th anniversary of Toyama office of the Regional Coordinating Unit (RCU) of NOWPAP, a symposium was held on 6 December. To commemorate this occasion, a booklet was developed to introduce accomplishments and past/current activities of CEARAC and NOWPAP in English and Japanese.

3. Expenditures of CEARAC activities for the 2014-2015 biennium

During the 2014-2015 biennium, budget of each fiscal year was adopted in an unprecedented manner.

Some of the tasks in specific projects were taken care of by the Secretariat of CEARAC and this caused change of the budget allocation in 2015, which was explained and agreed in CEARCA FPM13 (2015).

Table 2 shows the modified budget and the final expenditure for CEARAC activities for the 2014-2015 biennium.

As mentioned in each specific project, some tasks (e.g. developing a regional report) has not been completed yet; however, some planned budget is kept for the uncompleted tasks, especially preparation of reports. Then, after printing of the reports, allocation of NOWPAP Trust Fund for the CEARAC activities for the 2014-2015 biennium will be completely spent.

**Table 2 Modified budget and final expenditure for CEARAC activities
for the 2014-2015 biennium**

Activity	Modified Budget (US\$)			Final Expenditure (US\$)		
	2014	2015	Total	2014	2015	Total
Meetings						
- FPM12	27,000		54,000	23,307		53,257
- FPM13 + Expert MT		27,000 +external			29,950	
Web maintenance						
- Regular update	1,500	1,500	3,000	1,470	1,584	3,054
- Upgrade of Marine Environ. Watch System	in-kind	in-kind		In-kind	in-kind	In-kind
Specific projects						
Threats on Marine BD						
- Assessment	12,000 ² 9,000		24,000		9,000	23,653
- Workshop		10,000		0	7,753	
- Regional report		2,000 5,000			6,900	
Eutrophication Assessment			20,000	0		20,000
- Assessment	16,000				12,000	

² Crossed-out numbers were the original amount of budget at the beginning of 2014. Revised amount, which were presented at CEARAC FPM13, is under each crossed-out number.

- Potential eutrophic map	12,000	4,000 8,000			8,000	
Seagrass mapping						
- Manual development	4,000				4,000	
- Purchase of satellite images		4,000	20,000	0	7,000	20,000
- Case studies		12,000			9,000	
Cooperation & coordination	2,000	2,000	4,000	2,251	2,785	5,036
Sub TOTAL	62,500	62,500	125,000	27,028	97,972	125,000
RAP MALI						
- Data compilation	In-kind	In-kind		In-kind		
- Report development on Collaboration in basins		6,000	6,000		6,000	6,000
- (SSFA)		(13,000)			(13,000)	
Grand TOTAL	62,500	68,500	131,000	27,028	103,972	131,000