



**Northwest
Pacific
Action Plan**

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Northwest Pacific Action Plan
Pollution Monitoring Regional Activity Center

The Thirteenth NOWPAP POMRAC Focal Points Meeting
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**Workplan and budget for development of Regional Overview
“Targets and indicators for Ecological Quality Objectives for the
NOWPAP region”**

1. Background

In 2011, 16th NOWPAP IGM adopted NOWPAP Medium-term Strategy for 2012-2017. One of the main MTS Objectives for Theme 1, Integrated coastal and river basin management (ICARM), is to develop and adopt a harmonious approach towards coastal and marine environmental planning on an integrated basis and in a pre-emptive, predictive and precautionary manner (Objective (iii) from NOWPAP Action Plan). One of the suggested activities for this Theme is **Setting Ecological Quality Objectives** for marine and coastal environment, based on the regular assessments.

The 11th NOWPAP POMRAC FPM (Tianjin, China, 9-10 October 2013) discussed and agreed that the development of the Ecological Quality Objectives (EcoQOs) for the NOWPAP region should be included into POMRAC workplan for the 2014-2015 biennium. It was also agreed that POMRAC in 2014-2015 should focus on the following new issue, “Joint Activity for WG1, WG2 and ICARM WG with cooperation with RACs, RCU and relevant organizations (PEMSEA, COBSEA, WESTPAC and others): Development of the Ecological Quality Objectives for the NOWPAP region with regional workshop combined with the 12th NOWPAP POMRAC FPM”.

The 18th NOWPAP Intergovernmental Meeting (Toyama, Japan, 4-6 December 2013) discussed the NOWPAP PoW and budget for 2014-2015. The IGM approved the development of the Ecological Quality Objectives for the NOWPAP region with regional workshop combined with the 12th POMRAC FPM.

In September 2014, the regional workshop “**Setting Ecological Quality Objectives for the NOWPAP Region**” was held in Busan (Republic of Korea) back-to-back with the 12th Focal Points Meeting of POMRAC. POMRAC Focal Points (representing NOWPAP member states), representatives of other RACs, OSPAR, PEMSEA, PICES, YSLME and NOWPAP RCU participated in the Workshop.

Taking into account the analysis of current environmental situation in the NOWPAP region and considering successful work on EcoQOs by several leading Regional Seas programs (such as MAP, HELCOM, and OSPAR) as well as the discussion during regional workshop held in September 2014, the suggested **5 Ecological Quality Objectives for the NOWPAP region** are as follows:

- Biological and habitat diversity are not changed significantly due to anthropogenic pressure;
- Alien species are at the levels that do not adversely alter the ecosystems;

- Eutrophication adverse effects (such as loss of biodiversity, ecosystem degradation, harmful algal blooms, and oxygen deficiency in bottom waters) are absent;
- Contaminants cause no significant impact on coastal and marine ecosystems and human health;
- Marine litter does not adversely affect coastal and marine environments.

Ecological Quality Objectives are the very broadly formulated “idealized” goals, and it is obviously that additional metrics are quite necessary for their development and implementation. The following steps were suggested for the further development of Ecological Quality Objectives:

- Elaboration of the Operational Objectives (targets) for each EcoQO;
- Agreement on indicators for each Operational Objective.

Development of the lists of the targets and indicators of the marine environment condition in the NOWPAP region is at its initial stage. Draft Table 1 of targets and indicators is suggested by POMRAC for further discussion, changes and elaboration, and is based on the EU experience in the implementation of MSFD mainly.

Description of the major ecological problems is the starting point on the way to achieve Good Ecological Status (GES) through the compliance with EcoQOs. Important steps in this direction are as follows:

- singling out of biogeographic zones within the NOWPAP region, and determining of background conditions for each zone, which will be useful for further comparison with actual or possible environmental conditions under anthropogenic pressure;
- development of lists of operational objectives (targets) and environmental quality indicators for each EcoQO;
- analysis of the proposed environmental targets and indicators from the point of view their relevance and compatibility with the existing monitoring programs in the NOWPAP member states;
- regular assessment of marine and coastal environment through application of approved indicators to evaluate the progress in the reaching of GES on the operational objectives and EcoQOs ;
- development and review of corresponding action plans (for example, on marine litter, eutrophication, invasive species etc.).

The preparation of the Regional Overview describing the relevance and appropriateness of the suggested targets and indicators to the environmental problems existing in the different NOWPAP member states is proposed as a first stage on this long way of GES reaching.

Regional overview also should reflect the peculiarity of the national approaches to ecosystem based management in our countries because EcoQOs concept is not only methodology to provide environmentally friendly style of life and management. Results achieved in this field by NOWPAP RACs and other relevant international organization should be also revealed.

Regional Overview will be based on the analysis and compilation of National inputs from all NOWPAP member states prepared by the nominated national experts, and summaries of NOWPAP RACs achievements on the issues related to the targets and indicators of EcoQOs. The preparation of the Regional Overview will be carried out by the international expert.

2. Aim

Aim of this activity is to prepare the Regional Overview of targets and indicators for Ecological Quality Objectives for the NOWPAP region in order to provide useful information and facilitate the implementation of the ecosystem based management for the achievement of the good ecological status in our region.

3. Main tasks

3.1. Regional Workshop “Targets and indicators for Ecological Quality Objectives for the NOWPAP region”

NOWPAP POMRAC will hold a Workshop back to back with 13th POMRAC FPM to discuss likeness and differences among national monitoring systems on each of the suggested Ecological Quality Objectives for the NOWPAP region, and to reveal common environmental quality indicators in the entire region. Other goals of Workshop will be the improving of information exchange on indicators used in each member state, as well as to generalize the data on peculiarities of monitoring systems and their compatibility among NOWPAP members and implementation of ecosystem approach in the issues of management and anthropogenic alteration of the environment.

3.2. Collecting information on existing targets and indicators for Ecological Quality Objectives or similar concepts used in the NOWPAP member states

3.2.1. Collecting Information on the relevance of Operational Criteria (Targets) and Indicators for the EcoQOs in the NOWPAP member states.

Based on the Draft List of the Targets and Indicators (Annex 1) National experts are expected to collect information on the relevance of the suggested targets and indicators for each of the EcoQOs to the environmental situation in their countries. This information should be arranged

as first part of National Input. POMRAC Secretariat will present the draft table of contents of National Input for discussion during the Workshop and POMRAC FPM. The relevance of indicators and targets should be assessed based on the geographical and socio-economical peculiarities of NOWPAP member states.

3.2.2. Collecting Information on the compatibility of suggested Operational Criteria (Targets) and Indicators with existing monitoring systems in the NOWPAP member states.

National experts will be asked to analyze the possibility to use the data of the routine state monitoring and other open published data existing in the NOWPAP countries for assessment of the environmental problems and status by suggested set of indicators. Analysis should include the description and analysis of the national monitoring systems in their parts related to the suggested indicators of EcoQOs.

3.2.3. Analysis of national approaches relevant to EcoQOs in the NOWPAP member states

National experts will be asked to summarize the national approaches to the ecosystem based management of coastal and sea areas other than EcoQOs concept. Analysis of national approaches/features relevant to each EcoQO should include the review of national policies (if any) and experience of using marine and coastal resources in the NOWPAP member states. The experience of regional organizations such as PICES, YSLME, PEMSEA and WESTPAC should be considered as well.

3.2.4. Collecting outcomes of the NOWPAP RACs activities related to the EcoQOs targets and indicators

Some of the activities carried out by NOWPAP RACs during last decade have close relation to the targets and indicators of EcoQOs. Seems logical to include the summaries and outcomes of these activities to Regional Overview. All RACs will be asked to present summaries of their activities related to the EcoQOs targets and indicators.

3.3. Preparation of Regional Overview.

International expert will prepare the Regional Overview summarizing outputs of above activities 3.2.1-3.2.4 with additional analysis of the regional features in the development and implementation EcoQOs approach in the NOWPAP region compare with other regions. The draft table of contents of the Regional Overview will be developed by the end of 2016, based on the contents of National inputs. It is supposed that Regional Overview will provide useful information for policy planning on ecological monitoring programs of each member state.

4. Expected outcomes and future direction

After preparation, discussion and approval by the FPs and RACs, the Regional Overview will be published and available. The Regional Overview will improve the exchange of information on indicators related to the EcoQOs, and is anticipated will be useful for the policy makers, governmental and non-governmental organizations connected with environmental problems in each NOWPAP member states.

In the future, it is expected to select common indicators for assessing the marine environment in terms of selected Ecological Quality Objectives through understanding the advantages and limitation of the suggested set of targets and indicators, and monitoring situation in the different NOWPAP states. The suggestion of the modified objectives, targets and indicators is not excluded as well.

5. Schedule

The proposed schedule is as follows.

Time		Actions	Main body
2016	Q1 to Q2 (13 th POMRAC FPM and back-to-back WS)	Approval for workplan and budget by POMRAC FPM after discussion during back-to-back Workshop Nomination of experts Nomination of International Consultant	- POMRAC, RCU - POMRAC FPs - POMRAC
	Q2 to Q3	Collecting Information on Indicators and Targets for each of the 5 EcoQOs in NOWPAP region	- Experts
	Q3	Analysis of national approaches (features) relevant to EcoQOs in NOWPAP member-states	- Experts
	Q4	Comparison of national monitoring systems for each of the 5 suggested Ecological Quality Objectives for the NOWPAP region and discussing of common environmental quality indicators in the region.	- POMRAC, International Consultant and Experts
2017	Q1-Q3	Preparation of draft Regional Overview	- International Consultant
	Q3	Review and finalization of the draft Regional Overview	- POMRAC, FPs/Experts and International Consultant, RCU, RACs

	Q4	Publication of the Regional Overview	- POMRAC
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6. Budget

Contract	Timing	Output	To be completed	Counterpart	Budget (US\$)
Workshop on EcoQOs back-to-back with POMRAC FPM	2016 Q2	Report of Workshop	30 June 2016	POMRAC	23,200*
Collecting information on Indicators and Targets for each of the 5 EcoQOs and analyzing the national approaches (features) relevant to EcoQOs	2016 Q2 to Q4	Preparation of the summaries of the NOWPAP RACs activities related to the targets and indicators of EcoQOs	30 October 2016	CEARAC	3,000**
				MERRAC	3,000**
				POMRAC	3,000**
				DINRAC	6,000**
	National Inputs on Indicators and Targets for each of the 5 EcoQOs in NOWPAP region	30 December 2016		Experts in China	5,000**
				Experts in Japan	5,000**
				Experts in Korea	5,000**
				Experts in Russia	5,000**
Preparation of the Regional Overview	2017 Q2 to Q3	Draft Regional Overview	30 March 2017	International Consultant	6,800**
Finalization and publication of Regional	2017 Q4	Final version of Regional Overview	30 November 2017	POMRAC, International Consultant	7,000
Total					72,000

*-partly through the DINRAC SSFA; ** - through the DINRAC SSFA

Annex 1

**Draft List of Ecological Quality Objectives, operational criteria
and indicators for the NOWPAP region**

Ecological Quality Objectives*	Operational Criteria (Targets)	Indicators
1. Biological and habitat diversity are not changed significantly due to anthropogenic pressure	1.1. Species diversity of marine mammals and waterbirds	1.1.1. Abundance, distribution and population growth rates of marine mammals 1.1.2. Abundance and productivity of key waterbird species
	1.2. Species, age and size structure of fish stocks	1.2.1. Catch/biomass ratio 1.2.2. Spawning Stock Biomass (SSB) 1.2.3. Proportion of large fish (for selected species at the top of food webs)
	1.3. Distribution of benthic and pelagic communities and their status	1.3.1. Distribution 1.3.2. Condition of the typical species and communities 1.3.3. Hydrological and chemical conditions
2. Alien species are at levels that do not adversely alter the ecosystems	2.1. Abundance and state characterization of alien species	2.1.1. Trends in spatial distribution and biomass of alien species
	2.2. Environmental impact of alien species	2.2.1. Ratio between alien species and native species and their interaction at the level of ecosystem, habitats and species
3. Eutrophication adverse effects (such as loss of biodiversity, ecosystem degradation, harmful algal blooms, and oxygen deficiency in bottom waters) are absent	3.1. Nutrients concentration	3.1.1. Nutrients concentration in the water column 3.1.2. Nutrient ratios (silica, nitrogen and phosphorus)
	3.2. Direct effects of nutrient enrichment	3.2.1. Chlorophyll concentration in the water column 3.2.2. Species composition and abundance of toxic microalgae 3.2.3. Harmful algal blooms (HABs) 3.2.4. Abundance of opportunistic macroalgae
	3.3. Indirect effects of nutrient enrichment	3.3.1. Seasonal hypoxia, dissolved oxygen changes and size of the area concerned
4. Contaminants cause no significant impact	4.1. Concentration of contaminants	4.1.1. Concentration of the contaminants in sediments, water and hydrobionts
		4.1.2. Exceeding of MPC in aquatic

on coastal and marine ecosystems and human health		organisms and frequency of such cases
5. Marine litter does not adversely affect coastal and marine environments	4.2. Effects of contaminants	4.2.1. Levels of pollution effects on the ecosystem components concerned, where a cause/effect relationship has been established
	5.1. Characteristics of litter in the marine and coastal environment	5.1.1. Trends in the amount and composition of litter washed ashore 5.1.2. Trends in the amount of litter in the water column and deposited on the seafloor 5.1.3. Trends in the amount, distribution and composition of micro-particles
	5.2. Impacts of litter on marine life	5.2.1. Trends in the amount and composition of litter ingested by marine animals

* - as suggested by the Regional Workshop "Setting Ecological Quality Objectives for the NOWPAP Region", Busan, Republic of Korea, 3 September, 2014