



**Northwest
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Action Plan**

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Northwest Pacific Action Plan
Pollution Monitoring Regional Activity Center

The Fourteenth NOWPAP POMRAC Focal Points Meeting
Vladivostok, Russian Federation, 25-26 October, 2017

**Report on the activities
of NOWPAP Pollution Monitoring Regional Activity Center
(POMRAC) in 2016-2017**

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Introduction

1. Pollution Monitoring Regional Activity Center (POMRAC) of UNEP Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP) was established according to the decision of the 4th NOWPAP Intergovernmental Meeting (Beijing, China, 6-7 April 1999) on the basis of the Pacific Geographical Institute of the Far Eastern Branch of the Russian Academy of Sciences (Vladivostok, Russia).
2. The overall goal of POMRAC is the coordination of activities and establishment of regional cooperation in monitoring of marine and coastal environment of the Northwest Pacific region within the UNEP NOWPAP framework. Following the results of discussions at the First NOWPAP/3 Coordinating Committee Meeting (Beijing, 21-22 May 2001), the 7th NOWPAP Intergovernmental Meeting (Vladivostok, 20-22 March 2002) made a decision on sharing the responsibilities and activities between CEARAC and POMRAC as presented in document UNEP/NOWPAP IG.7/8. POMRAC is fully responsible for two working groups: WG 1 “Atmospheric Deposition of contaminants to the marine and coastal environment” and WG 2 “River and Direct Inputs of contaminants to the marine and coastal environment”.
3. It was decided also that POMRAC might later consider focusing on activities related to Integrated Coastal and River Basin Management, which includes land-based sources of pollution. All activities related to land-based sources of pollution were expected to be implemented in close collaboration with all NOWPAP RACs and with the UNEP/GPA.
4. In 2015, most of POMRAC activities were “frozen” due to problems with processing payments to foreign experts from Russia. 20th IGM (Beijing, People’s Republic of China 28-30 October 2015) are decided in order to simplify the

administrative process of recruitment of and payment to foreign experts (consultants), to assign the responsibility of implementation of two activities on the development of Ecological Quality Objectives and on the training course on ICARM with a total 2016-2017 biennium budget of US\$ 60,000 to DINRAC, while these two activities will be overseen by POMRAC.

5. The 20th Intergovernmental Meeting approved the budget of US\$ 86,000 for 2016-2017 biennium for POMRAC activities (including US\$ 6,000 for RAP MALI implementation).

2. Organization and staff

6. The POMRAC Secretariat is hosted by Pacific Geographical Institute of the Far Eastern Branch of the Russian Academy of Sciences (PGI FEB RAS). Day-to-day work is being done by 3 assigned researchers and technicians from the Pacific Geographical Institute working as volunteers:

Dr. Anatolii Kachur Director (kachur@tig.dvo.ru)

Mr. Nikolay Kozlovskii Staff Member (geo@tig.dvo.ru)

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3. Main activities in 2015-2016

8. POMRAC activities were agreed at the 20th NOWPAP Intergovernmental Meeting IGM (Beijing, People's Republic of China 28-30 October 2015). The 20th IGM approved POMRAC activities and USD 86,000 were allocated to POMRAC including USD 6,000 for NOWPAP RAP MALI for the 2016-2017 budget, same as the budget of other RACs.
9. In accordance with the decisions of the 20th NOWPAP IGM, with the budget approved at this meeting and with the main lines of POMRAC work the following activities were scheduled for 2016 – 2017:

- Activity 1. Joint activity of WG1, WG2, ICARM WG: Development of the Regional Overview “Targets and indicators for Ecological Quality Objectives used in NOWPAP member states”
- Activity 2. Organization of Regional WS “Targets and indicators for Ecological Quality Objectives used in NOWPAP member states” (back to back with 13th POMRAC FPM)
- Activity 3. Organization of Regional workshop/ training course on Integrated Coastal Planning/Management of Regional Guidelines for Integrated Coastal Planning/Management (in cooperation with PEMSEA)
- Activity 4. Organization of 13th and 14th POMRAC Focal Points meetings
- Activity 5. Update, maintenance and enrichment of POMRAC Website
- Activity 6. Activities of RAP MALI: Increasing public awareness about marine litter problem by developing and distributing promotional materials
- Activity 7. Cooperation, Communication of NOWPAP POMRAC activities, with other RACs, RCU, UNEP, and other relevant organizations, projects and programmes.

3.1 Joint Activity for WG1, WG2 and ICARM WG in collaboration with other RACs, RCU and relevant organizations (e.g., PICES, WESTPAC)

10. Several steps are suggested for the development of Ecological Quality Objectives.

These steps include:

- Preparation, discussion and approval of the set of EcoQOs;
- Elaboration of the Operational Objectives for each EcoQO;
- Agreement on indicators and targets for each Operational Objective.

11. Suggestions to develop Ecological Quality Objectives for the NOWPAP region were included in the NOWPAP Medium-term Strategy 2012-2017 (MTS) already approved by NOWPAP member states in 2012. One of the main MTS goals 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). Suggested Activity for this purpose is a Setting Ecological Quality Objectives for marine and coastal environment based on the regular assessments.

12. The List of the Ecological Quality Objectives is based on the vision reflecting the common broadly accepted description of ecological status of the region.

3.1.1 The 13th POMRAC Focal Points Meetings

The 13th NOWPAP POMRAC Focal Points Meeting was held during 19 -20 May 2016 in Vladivostok, Russian Federation (Fig. 1.)

The major objectives of this meeting were as follows:

- Overview of the progress made in the intersessional period after the 12th NOWPAP POMRAC Focal Points Meeting
- Report of NOWPAP RCU representative on the implementation of the Northwest Pacific Action Plan after the 12th NOWPAP POMRAC FPM
- Report on the implementation and the budget expenditures of POMRAC activities period after the 12th NOWPAP POMRAC Focal Points Meeting
- Report on the implementation of Marine Litter Activity
- Discussion of the workplan for 2016/2017 and future activities of POMRAC for the achievement of Ecological Quality Objectives in the NOWPAP Region
- Review and adoption of the structure and content of the Regional Overview “Targets and indicators for Ecological Quality Objectives for the NOWPAP region”
- Discussion of the timetable and budget for the Ecological Quality Objectives activity of POMRAC in 2016/2017 biennium
- Discussion of other intersessional activities of POMRAC
- Marine Litter Activity
- Review of workplan and budget of POMRAC activities for the 2016-2017 biennium

3.1.2 Regional WS “Targets and indicators for Ecological Quality Objectives used in NOWPAP member states”

13. A regional workshop on Development of the Ecological Quality Objectives (EcoQOs) for the NOWPAP region was combined with 13th POMRAC FPM (Vladivostok, Russia 18 May, 2016).
14. At the regional workshop “Targets and indicators for Ecological Quality Objectives for NOWPAP region” experts from NOWPAP member states and representatives from NOWPAP partners in the region (PICES and IOC WESTPAC) discussed targets and indicators for the EcoQOs formulated earlier, in 2014, related to five major issues: biodiversity and habitats, alien species, eutrophication, contaminants, and marine litter.



Fig. 1.

15. Experts found with satisfaction that at least several targets related to biodiversity, eutrophication and contaminants might be common for all four NOWPAP member states. Following preparation of national inputs and submissions from all NOWPAP Regional Activity Centers, the regional overview on EcoQO targets and indicators for the NOWPAP region will be prepared at the end of 2017.

3.1.3 Development of the Regional Overview “Targets and indicators for Ecological Quality Objectives used in NOWPAP member states”

16. According with discussion during regional Workshop “Targets and indicators for Ecological Quality Objectives for the NOWPAP region”, and 13th POMRAC FPM decision on the Workplan for development of Regional Overview “Targets and indicators for Ecological Quality Objectives for the NOWPAP region” (Vladivostok, 19-20 May 2016) the following steps have been made till middle of October 2016:
 - National POMRAC Focal Points nominated experts for the preparation of national Inputs to the regional overview.
 - The discussion on the similar extended abstract from DINRAC as well as general discussion of DINRAC’s help to POMRAC with arrangement of payments on the EcoQOs implementation in accordance to decision of IGM took place during 13th DINRAC FPM
 - The MoU between DINRAC and MERRAC for the preparation of extended abstract of MERRAC activities relevant to EcoQOs has been signed on 6.07.2016
 - The MoUs between DINRAC and CEARAC, and between DINRAC and POMRAC for the preparation of extended abstracts of the RACs activities relevant to the EcoQOs have been signed on 17.08.2016
17. As a result for the time being there are 7 signed MoUs between DINRAC and POMRAC, MERRAC, CEARAC, Dr.RYU, Dr.LAN, Dr.MATSUDA, Dr.SHULKIN for the preparation of extended abstracts of RACs activities relevant to the EcoQOs (first three), and for the preparation of national inputs to the Regional Overview (last four) according with decisions of POMRAC FPM. All signed MoUs have been copied to RCU, and all set of MoUs has been sent repeatedly on 17.08.2016.
18. Thus, for the time being the experts and RACs are working in accordance with MoUs and the drafts should be submitted to DINRAC and POMRAC by the end of October 2017.

Actually, the 1st Draft of the “Regional overview of possible Ecological Quality Objective indicators for the NOWPAP region” has been prepared by International Consultant in March 2017.

19. In April-May 2017, the POMRAC distributed this document among POMRAC Focal points and national experts, as well as other RACs and the RCU for receiving comments and suggestions for improving the document.
20. After receiving comments and suggestions, the International Consultant finalized the text in August. The final text of “Regional overview of possible Ecological Quality Objective indicators for the NOWPAP region” was sent for approval to the NOWPAP Focal Points in August 2017.

3.2 POMRAC activities related to Implementation of NOWPAP Regional Action Plan on Marine Litter (RAP MALI)

21. NOWPAP RAP MALI budget allocations for the 2016-2017 biennium (as agreed upon by the 20 IGM) determine that the main RAP MALI activity of NOWPAP POMRAC in the biennium of 2016-2017 is research on micro-plastics content and migration in the Peter the Great Bay.
22. The objectives of the activity/description of each objective:
 - Learning methods of microplastic assessment applied globally and regionally (within NOWPAP members): besides learning the issue theoretically, in June and August 2016 brief training courses on sampling and processing of samples in the Korean Institute of Ocean Science and Technology (KIOST, Republic of Korea) and Kyushu University (Japan) TUMSAT cruise for search of microplastics in the eastern part of the Sea of Japan (29 July-2 August 2016) were attended (Fig. 2).



Fig.2.

- Water sampling in the selected sites of the water area using plankton net/neuston net was used. The water sampling using plankton net and neuston net was carried out in the selected sites in the tidal zone and in the coastal water of Peter the Great Bay (Fig. 4). Besides, water samples from two larger transboundary rivers (the Tumen River and the Razdolnaya/Suifen River) and small rivers (Amba, Narva, Barabashevka, Partizanskaya, Kievka etc.) discharging into the sea area were collected using pump.
- The results of this survey will be published as a technical report in December 2017 after disseminating the draft report among NOWPAP Marine Litter Focal Points and receiving their comments and suggestions. The draft report is available just prior to the 14th Meeting of POMRAC Focal Points.

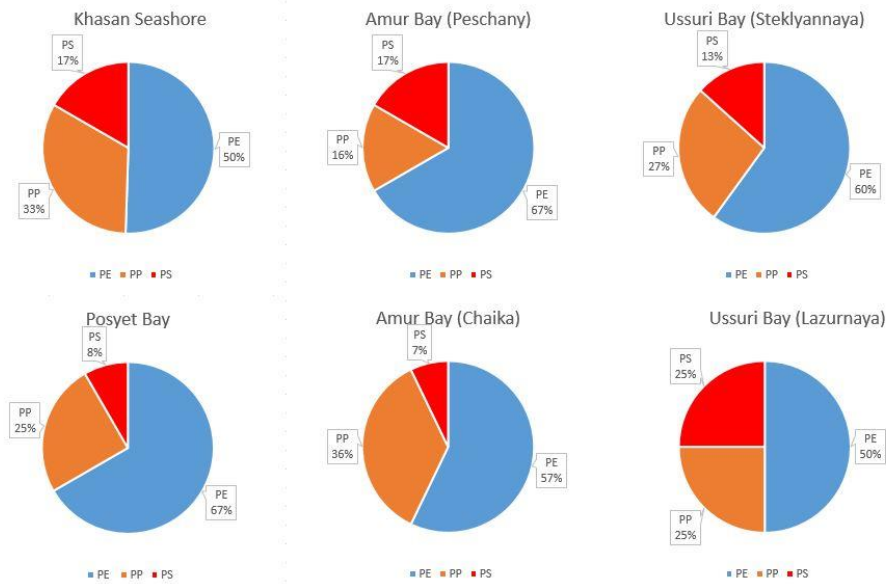


Fig. 3. Most frequent polymer types of micro (0.1-5 mm) and meso (5-25 mm) plastic fragments in the coastal area of the Peter the Great Gulf

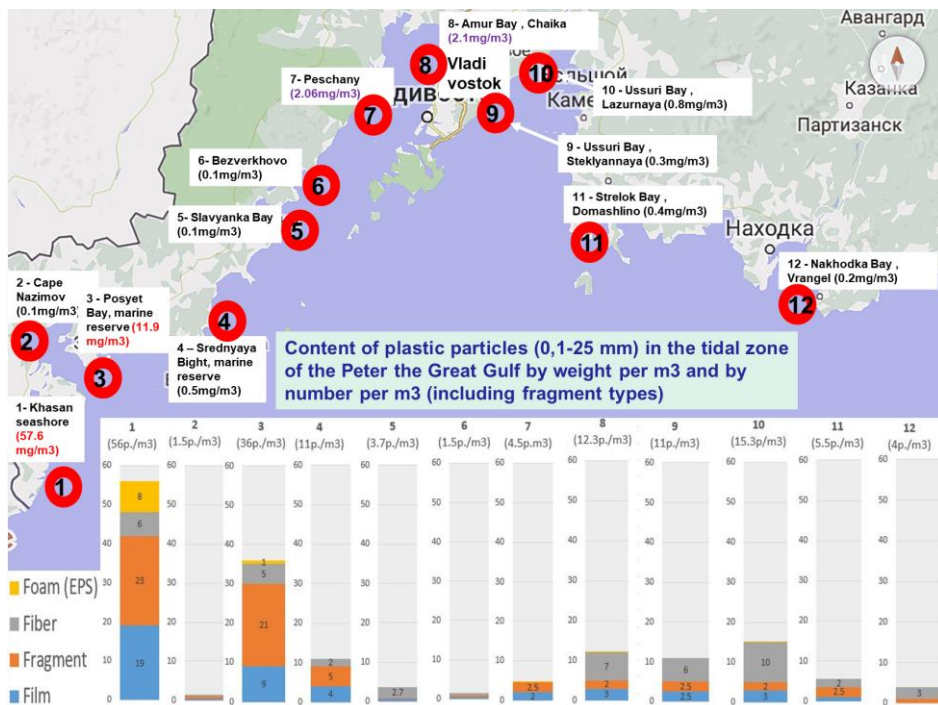


Fig. 4. Basic sampling locations and revealed concentrations of plastic particles by fragment type (quantitatively and by weight)

23. To support the activity on Organization of 2016 NOWPAP ICC and Workshop on Marine Litter Management in Primorsky Krai, Russia, POMRAC and UNEP signed SSFA UNEP/SSFA/DEPI/2016/MCEB-NOWPAP/014 B17-40PNL-11207-SB-004861.01.01 - 14AF0001 20 June 2018 (Total Cost: USD 20,000).
24. The 2016 NOWPAP ICC and Workshop on Marine Litter Management was held in Slavyanka, Primorsky Krai, Russia on 23-24 September 2016. Representatives of administrative bodies, representatives of NGOs and researchers from four NOWPAP member countries (China, Japan, Korea and Russia) made their presentations concerning coastal waste management programs, studies of marine litter (macro-and micro-litter distribution), and cleanup actions organized by municipalities and local activists along river and marine coastal areas in their countries (Fig. 4, 5).



Fig. 4. Workshop on Marine Litter Management

25. After the RAP MALI working meeting, the ICC event was held at a beach near Slavyanka settlement. Participants of the Workshop and Rap MALI meeting attended the event together with local high school students. The litter collected on the beach was weighed and categorized according to the standards applied in UNEP Regional Seas programmes. The results of the ICC will be later available at

the NOWPAP CEARAC website and at the website of the Ocean Conservancy.



Fig 5. 2016 NOWPAP ICC in Primorsky Kray, Russia

26. In the morning of 24 September 2016 the RAP MALI working meeting was held. NOWPAP Marine Litter Focal Points and representatives of NOWPAP RACs, except DINRAC, attended the meeting. The meeting reviewed briefly the progress on the implementation of the NOWPAP Regional Action Plan on Marine Litter (RAP MALI) for 2016-2017. After the brief reports, the participants discussed further steps in enhancement of institutional cooperation on marine litter issue between NOWPAP member countries.
27. It was suggested that at the 21st NOWPAP IGM to be held in November 2016 in Korea the NOWPAP members should discuss the possibility of preparation of the Regional Guidelines on Assessment of Marine Litter Pollution, including macro-and micro-litter, by one of the Regional Activity Centers. It would promote for the establishment of an efficient and uniform regional tool to collect and compare related data among all member countries.

3.5 Other POMRAC activities in 2016-2017

28. Within the framework of the 10th International Ecological Forums “Nature without borders” (Vladivostok, Russia, 20-21 October 2016) POMRAC participated in

preparation of topic session “Transboundary natural processes in the Asia-Pacific region and the role of the negative man-made effects on them in extreme natural phenomena in the region”. The session were mainly focused on cooperation among countries of the region.

29. Within the framework of the XI International Environmental Forum “Nature without Borders” October 30 - 31 2017, Vladivostok. POMRAC participated in preparation of topic session “Development of environmental monitoring, assessment and measures taken to eliminate transboundary environmental threats.

30. POMRAC staff participated in several meetings on the problems of the protection of nature:

- International cooperation in the Northwest Pacific Region to study the transboundary transport of pollutants. (The Second International Symposium FEB RAS and the Korean Academy of Science and Technology, Seoul, 24-27 May 2016);
- EMECS’11 – SEA COASTS XXVI Joint Conference “Managing risks to coastal regions and communities in a changing world” (22-27 August 2016, St. Petersburg, Russia). Shulkin V.M., Kachur A.N., Kozhenkova S.I. Ecological quality objective approach to the environmental problems in the Northwest Pacific region.
- 4th round of Russian-Japanese consultations in the field of ecosystem conservation in adjacent areas in the framework of the cooperation program between the Russian Federation and the Government of Japan in the neighboring regions of the two countries in the field of research, conservation and management / sustainable use of ecosystems (Russia, Moscow, 25-26 October 2016).
- III International Conference "Resources, Environment and sustainable regional development in Northeast Asia." (Vladivostok, Russia. October 2016). Kozlovskii N.V., Hong S.H., Song Y. K., Kachur A.N. Distribution of beached marine litter and floating microplastics in the Minonosok inlet of Possiet Bay of The Peter The Great gulf.

- International Symposium on Sustainable Coastal Ecosystems 11th-14th January, 2017 Beijing, China. Kachur A. Major problems and challenges in the North-Western Pacific coastal area (Russian part).
 - Asian Large Marine Ecosystems towards a Regional Assessment of Asian LMEs / Centre for Coastal and Marine Resources Studies Bogor Agricultural University Bogor, Indonesia April 25th – 26th, 2017. Dr. Kachur Anatolii N. Comparative Effects of Pollution Stress on Large Marine Ecosystems of the West Bering Sea, Okhotsk Sea and Japan/East Sea Large Marine Ecosystems.
 - AASSA-Tokyo Workshop on “Role of Science for Inclusive Society,” 1-3 March, 2017. Kachur. A. Extreme natural and anthropogenic processes and hazards to human health in the Pacific Russia (considering of planned sustainable development programs).
 - Caspian Sea Day – 2017. The role of the framework convention for the protection of the marine environment of the Caspian Sea in achievement of the environmental sustainable development of the Caspian Sea region and interaction on the UN Sustainable Development Goals. 10-11 August 2017, Astrakhan, Russian Federation. / Kachur A. Experience in implementing the UNEP Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the North-West Pacific Region (NOWPAP) for the use of the Tehran Convention in the Caspian region.
 - PICES-2017 Annual Meeting. Environmental changes in the North Pacific and impacts on biological resources and ecosystem services. Vladivostok, Russia Sept. 22 — Oct. 1, 2017:
 - 1) V. M. Shulkin, A.N. Kachur and A.V. Tkalin. Elaboration of Ecological Quality Objectives as a step forward in enhancing cooperation to protect the marine environment in the Northwest Pacific.
 - 2) Nikolai Kozlovskii. River discharge as a source of plastic litter pollution in the Northwest Pacific Russia.
31. During 2016-2017, POMRAC staff members were actively involved in the meetings organized by all NOWPAP RACs, WESTPAC, PICES and other organizations.

Table 1. POMRAC Expenditure for 2017 (as 1 October 2017)

Activity	Original Budget (USD)	Expenditures in (2016) (USD)	Expenditures incurred in (1-3Q 2017) (USD)	Total Expenditures (USD)	Balance
Activity 1					
Joint activity of WG1, WG2, ICARM WG: Development of the Regional Overview “Targets and indicators for Ecological Quality Objectives used in NOWPAP member states”	7,000	0	7,000	7,000	0
Sub-total	7,000	0	7,000	7,000	0
Activity 2					
Activity 2. Organization of Regional WS “Targets and indicators for Ecological Quality Objectives used in NOWPAP member states” (back to back with 13th POMRAC FPM)	20,000	20,000	0	20,000	0
Sub-total	20,000	20,000	0	20,000	0
Activity 3					
Participation in the Regional workshop/ training course on Integrated Coastal Planning/Management	10,000	0	0	0	10,000
Sub-total	10,000	0	0	0	10,000
Activity 4					
Organization of 13 th and 14 th POMRAC Focal Points meetings	35,000	15,000	5,000	20,000	15,000
Sub-total	35,000	15,000	5,000	20,000	15,000
Activity 5					
Update, maintenance and enrichment of POMRAC Website	1,000	500	500	1,000	0
Sub-total	1,000	500	500	1,000	0
Activity 6					
Activities of RAP MALI: Increasing public awareness about marine litter problem by developing and distributing promotional materials	6,000	3,000	3,000	6,000	0
Sub-total	6,000	3,000	3,000	6,000	0
Activity 7					
Cooperation, Communication of NOWPAP POMRAC activities, with other RACs, RCU, UNEP, and other relevant organizations, projects and programmes.	7,000	3,000	3,000	6,000	1,000
Sub-total	7,000	3,000	1,000	6,000	1,000
Total	86,000	41,500	19,500	60,000	26,000