

# ICARM Approach in the Far East Coastal Areas of Russia

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The coastal areas of the Pacific Ocean and its seas are the most inhabited in the North-Eastern Asia. These areas are characterized by high level and contrast of natural parameters, conflict and contradictions in socio-economy, and various environmental problems. In order to address these problems and conflicting interests, Integrated Coastal Area and River Basin Management strategy (ICARM) was recommended. The ICARM was developed on the basis of the analysis of natural peculiarities, environmental conditions, and socio-ecological issues in the area. The ICARM strategy in the coastal areas is expected to result in the balanced combination of human activities, use of natural resources, and environmental protection.

In the Pacific coast of Russia, ICARM implementation is focusing on different aspects in accordance with the distinctive characteristics of the areas covered.

A vast area of the northern Far Eastern coasts of Russia covers low-populated districts without roads, towns, industrial enterprises. These districts are characterized by severe hydrometeorological conditions, which pose serious problems for human life and activities. In the river basins and coastal areas of the Bering Sea and the Sea of Okhotsk anthropogenic load is low. That is why there are no serious environmental problems except some fishery issues. The strategy for the integrated management of natural zones must be primarily directed to organization of sustainable use of natural resources, including the present utilization of bioresources and future production of oil and gas.

The other situation is evident in the southern part of the Pacific coast of Russia. On one hand, this area is covered by small river basins with clear waters coming from the northern part. On the other hand, the coastal area is adjoined by the large basin of the Amur/Heilong River and basins of Razdolnaya/Suifen River and Tumannaya/Tumen River, which flow along heavily populated territories of Russia, China and Mongolia that are characterized by developed industry and agriculture.

Furthermore, population density in the southern part of the Far East of Russia is higher; the area has a high concentration of main industrial facilities, and is characterized by intensive utilization



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of natural resources such as fish, forest, gas and oil. The main traffic centers and transportation routes are also situated in this area.

As a result, the southern part of the Far East of Russia has far more problems than the northern part, related to contradictions and conflicts among natural resource users. Another strategy must be developed for this region that should consider the following:

- Organization of sustainable use of the natural resources;
- Fair and well-balanced solving of social and economical conflicts; and
- Effective solving of environmental problems.

Moreover, the case in the southern part involves two levels of ICARM organization: on Russian regional level and on the international level.

The Russian part of the activity is to be concerned about environmental issues on the Russian territory, and the international plan of ICARM requires solving of problems on transboundary transport of pollutants through the waters of the Amur River, Tumen River, Razdolnaya River and marine currents.

Within the framework of NOWPAP initial steps have been undertaken to assess the flow of substances from the land-based sources (LBS), develop monitoring diagrams, and measure the impacts of LBS to the coastal areas.