

MANAGEMENT AND CONTROL OF POLLUTION LOAD ON COASTAL ZONES – INSTITUTIONAL AND MANAGEMENT CHALLENGES

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Analyzed at the paper are principal sources of pollution and their pollution load on the coastal zone of the Black Sea and current approaches to curbing the effects of such pollution, undertaken by the Ukrainian authorities. Black Sea is an internal sea of the Atlantic ocean basin, which washes the coasts of Ukraine, Russia, Georgia, Romania, Bulgaria and Turkey. Located at the Ukrainian part of water catchment area of the Black sea are basins of such rivers as Danube, Dnieper, Dniester, South Bug, rivers of Crimea. Total length of the Ukrainian part of the Black Sea /Azov Sea coastal line is more than 3000 km . Coastal zone is heavily populated and is also extensively used for recreation. Each year the number of tourists makes up to more than 2 million people.

Paper shows that principal sources of pollution can be divided into the following categories:

Effluents and wastewater discharges which are main factor of coastal zone pollution due to the insufficient treatment and close location of effluents discharge points from the coast line. So, in 1998 on the territory of Ukraine the amount of the discharged waste waters which did not receive any pre-treatment made up 5,9 mln m³, insufficiently treated – 34,5 mln m³, treated according to the norm – 224,6 mln m³.

- Surface run-off, both from urban and agricultural territories. In its magnitude and negative impact it can be easily compared with that one generated by wastewater discharge.
- Discharge from the land irrigation systems – is a source of pesticides, which negatively affect the biota.
- Dumping of wastes from the sea ships and boats into the seawater of coastal zone is considered as serious factor of negative impact on biota.
- Deepening of sea bed for securing passage of ships to the ports renders negative impacts on the sea environment
- Coast erosion, land slides. Coast erosion is considered as a serious problem for the Black Sea area. About 2600 km. of the coastline is destroyed as a result of coastline scouring and erosion. More than 100 Ha of the land is lost over the different use every year. This leads to the diminishing of the territory which is suitable for the construction of towns and development of the tourism and negatively affects the coastal ecosystem
- Cargo transfer in ports – have a negative impact in big ports (Odessa, Sevastopol).
- Oil and gas extraction on the shelf area of the Sea is a comparatively new direction of economic activity, but it is potentially dangerous source of seawater pollution by the oil products.

Impact of each of these sources is analyzed and proposed corrective measures are described for possible implementation. In general, pollution load frequently

exceeds self-purification capacity of the coastal marine ecosystem. Microbiological pollution of the coastal waters by the wastewaters discharged by industry and municipalities often does not allow to use them for recreation. Pollution of the sea is also manifested in radically reduced fish catches and decline of marine aquatic ecosystems, especially at the coastal zone sections, adjacent to large industrial (e.g. Odessa) or recreational centers (e.g. Yalta). The paper also describes and analyses efficiency of approaches to pollution control applied by the Ukrainian authorities in the recent years. In general they focus on strengthening of institutional and legal aspects of water pollution control, especially in the coastal areas of the sea, used for recreation. Among measures applied mentioned should be:

- Development of a special governmental Programme for the coastal zones management for the Black and Azov seas.
- Elaboration of new guidelines for calculation of allowable pollutants discharge into the sea waters (based on requirements of the EU Water Framework Directive, IPPC and BAT introduction)
- Establishment of a number of natural preserves and protected areas at the catchments of the rivers draining their flow into the sea.
- Introduction of new pollution control technologies and cleaner production technologies
- Re-location of “dirty” industrial enterprises away from the vicinity of coastal zone of the sea
- Improvement of enforcement of applicable environmental laws and regulations
- More active involvement of general public and NGO in decision-making process relating to the coastal zone management and clean-up.

Conclusion is made and demonstrated that alongside with the need to solve a number of technical, scientific and methodological issue, great importance should be attached to institutional strengthening of coastal zone management which would surely result in increased efficiency of the coastal zone management

Key Words: coastal zone, pollution load, coastal zone management, institutional strengthening