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Pollution Monitoring of the Turkmen sector of the Caspian Sea.

Executive summary

In the frame of the EC Tacis project Caspian Water Quality Monitoring and Action Plan for areas of Pollution Concern (CaspianMap), Caspian pollution surveys were designed for the littoral countries. “Caspekokontrol”, of the Ministry of Nature Protection (MNP), was contracted for preparatory works and sampling, in the Turkmen sector of the Caspian Sea, which took place between 30th of October and 8th of November, 2008.

The participants of the survey are the following:

1. Berkeliev Timur, Leader of the Pollution Survey, National Water Quality Monitoring Expert of the CaspianMap Project
2. Karaeva Akbike – Deputy of “Caspecocontrol” laboratory
3. Saryev Yusup – inspector of “Caspecocontrol” in Khazar
4. Ilyasov Doktormamed – employee of “Caspecocontrol”
5. DirkJan Douma – Associate Expert, Caspianmap project
6. Voitsekhovitch Oleg – TACIS Water Quality Monitoring Expert

And other staff of the team, which maintained all the duties at the vessel.

The main tasks of the Pollution survey were:

- Taking water and bottom sediments sampling in the Turkmen sector of the Caspian sea for screening of the main groups of polluting elements;
- Measure physical-chemical characteristics of water in-situ with use of multiparameter measuring instrument and profilograph of marine environment;
- Training of modern methods of sampling, conservation and sample preparation to turkmen specialists;
- Define analytical and human resource potential of “Caspecocontrol” as a future participant of the regional monitoring program, indicate “narrow places” and directions for further technical assistance from EC.

For achievement of this purpose the program of expedition was developed, during which the water and bottom sediments sampling was fulfilled. The special organization “Caspecocontrol” of the Ministry of Nature Protection in Turkmenistan, which is in charge of monitoring of the marine environment status in the Turkmen sector of the Caspian Sea, stands for an executor-organization of the field works. The works were fulfilled on the fishing boat TP-008 (PTC-225 MN№418), which belongs to the “Balkanbalyk” organization. Besides the local experts, there were also international ones, which held training for the participants and were in charge of compliance of all the procedures to the international standards.

The region of survey covered the whole zone of patch of “Caspecocontrol”. These zones are shown on the Pic.1, given below.

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After completion of the preliminary stage the interim plan of the expedition was compiled and ready by the 19th of June, 2008, which was agreed further with the participants and had wider discussion at the seminar in Atyrau the 9-10th of July, 2008. In the period from the 29 – 30th of October the sampling was taken by the group of national and international experts in Turkmenbashi and Soimonov Bays. The sea works of sampling were conducted in the period from the 31st of October till 8th of November and included the following:

- Measurement of the physical-chemical characteristics of water on the boat;
- Sampling and conservation of the sea water samples for the further hydrochemical analysis in the waterside laboratory;
- Sampling of the bottom sediments, research of their composition, packing and storage of the samples in the freezer at the temperature – 15⁰ C.

At 22 stations water samples were taken for three types of the following analyses (content of the base biogenic matters, oil products, phenols and metals). Oxygen, salinity and temperature were measured directly in-situ or immediately after salvaging of the samples by bathometer. During the expedition the samples were taken according to the methods, accepted in the laboratory “Caspecocontrol”. The sampling was conducted on several horizons: surface, bottom and on the interstitial depth. Their were taken 27 samples at the 22 stations in total.