



LIFE Nature project “Marine Protected Areas in the Eastern Baltic Sea”
Reference number: LIFE 05 NAT/LV/000100

Executive summary: Action C4 – Assessment of the impact of transboundary and local pollution on habitats and species of community importance

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Action implementation period: **September 2005 - March 2009**

Action rationale

Many of the project areas are located in the proximity to the potential pollution sources such as oil transfer terminals, ports or shipping routes. Intensive ship traffic endangers marine Natura 2000 sites both via discharge of ballast waters and with waste liquids from engine rooms. Most of discharged hazardous substances enter the food web and can cause survival problems for marine organisms. Although this threat is well recognized, the actual impact on marine Natura 2000 sites is poorly known and quantified. That being the case, there is a clear need to evaluate risk factor by pollution on the project areas.

Action goal

The main goal was to assess pollution level at all project areas and elaborate suggestions, if needed, for inclusion in management plans.

For that purpose sampling of mollusks and sediments was planned in project areas: 1EST, 2EST, 3EST, 4EST, 5EST, 6EST, 11LAT, 7LAT, 8LAT, 12LIT and 13LIT. Further, analyses of heavy metals in sampled molluscs (*Mytilus edulis* sampled from hard bottoms and *Macoma balthica* sampled from sandy bottoms) and analyses of selected congeners of PAHs as well as total oil in sediments with subsequent data analyses and environmental status assessment were planned.

Description of activities:

Activity 1: Preparatory phase

During kick-off meeting and following discussion general concepts on sampling techniques, sample treatment methodology and data treatment were agreed.

Activity 2: Field work (sampling of mollusks, sea grass and sediments).

- The sampling in project areas 12LIT and 13LIT was conducted during May, August and October of 2006,
- The sampling in project areas 1EST, 2 EST, 3EST, 4EST, 5EST, 6EST was completed in 2007.
- The sampling at project area 11LAT, 8LAT and 7 LAT was completed in 2006, 2007 and 2008, respectively.

Activity 3: Analyses of sampled material:

The analyses in all respective samples were performed within 6 months after sampling.

Activity 4: Data analyses and assessment - Conclusion

Although at some stations observed values of heavy metals significantly exceeded those observed at majority of stations, the overall concentration level is low and does not exceed values observed elsewhere in Baltic Sea. Therefore, with rather high level of confidence can be concluded that presently in potential Natura 2000 territories or near them no significant pollution threat is presented. However, due to intensive use of Baltic Sea for shipping and other activities, as well as industrial activities in drainadge basin, the pollution by heavy metals and oil compounds is remaining as potential threat to be periodically assessed.

Main lessons learned

The activity worked out rather well. However, it revealed scientific gaps in mollusk ecology which should be filled in further activities, preferably in frame of purely scientific project. Most suitable would be EU Scientific Framework program. The additional research is needed because even in such close proximity as it was in this project, benthic habitats exhibit very wide range of species composition and it is impossible to secure necessary amount of material using only one test specie. That means intercomparison of results measured in different species and so need for recalculation algorithm.