



DENOFLIT - Inventory of marine species and habitats for development of NATURA 2000 network in the offshore waters of Lithuania

LIFE09 NAT/LT/000234



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#### Project description:

##### Background

Areas outside territorial waters had not previously been studied in the context of the EU Birds and Habitats directives either from a species or habitat perspective. Broad-scale sediment and bathymetric charts indicated potential reef areas in the three proposed LIFE project territories: Klaipeda-Ventspils Plateau, Sambian Plateau and Klaipeda Bank. Reefs are included in Annex I of the Habitats Directive.

The complex topography of the seabed meant that all three of these project areas were important for fish species such as pelagic-neritic anadromous twaite shad (*Alosa fallax*), or demersal anadromous common whitefish (*Coregonus lavaretus*), which are also protected by the Habitats Directive. Both species spawn in the freshwater Curonian Lagoon, but during spawning migrations inhabit some Baltic Sea coastal areas in Lithuania.

It was largely unknown how both species used their habitats during the juvenile feeding and maturation stages. Therefore, fish inventory surveys were required in order to provide background data on these offshore habitats. Such information would enable the development and implementation of conservation measures.

A bird inventory would focus on the identification of the staging areas for the wintering and/or migratory birds, which would meet national SPA designation criteria (i.e. exceed 1% of the biogeographical population), including the red-throated diver (*Gavia stellata*), black-throated diver (*Gavia arctica*), velvet

scoter (*Melanitta fusca*), long-tailed duck (*Clangula hyemalis*), razorbill (*Alca torda*), guillemot (*Uria allge*) and black guillemot (*Cepphus grylle*). Should important staging areas of other seabird species be recorded, it was intended that these would be incorporated into the Natura 2000 network.

## Objectives

The LIFE DENOFLIT project aimed to conduct inventories of marine species and habitats in the offshore waters of the Lithuanian Exclusive Economic Zone (EEZ) and designate Natura 2000 areas selected during site evaluation.

Specifically, the project aimed to:

- Evaluate sites project areas in the offshore part of the Lithuanian EEZ with respect to habitat types and species listed in the Birds and Habitats directives for designation of Natura 2000 network areas;
- Disseminate project results about marine values and conservation needs to multiple levels of users; and
- Elaborate recommendations for adequate and efficient conservation of habitats and species in the offshore areas of the Lithuanian EEZ.

## Results

The LIFE DENOFLIT project met all its objectives. As planned, the field inventories, i.e. habitat -, fish - and birds' - inventories were all successfully completed. A site evaluation report of the diversity and distribution of habitats, fish and birds in the Lithuanian EEZ for the development of the EU Natura 2000 network was prepared. Two new marine Natura 2000 network sites were designated. Together, they cover a total area of 52 700 ha (8.1% of the total Lithuanian marine area): the Klaipeda-Ventspils Plateau biosphere polygon (31 949.31 ha) and the Sambian Plateau biosphere polygon (25 041.07 ha). Other key deliverables included a project website, the installation and launch of a Baltic Sea exhibition at the Lithuanian Sea Museum, the publication and distribution of a handbook on marine natural values (1 700 printed copies in Lithuanian, and an electronic (PDF) version in English), and an international conference organised as part of the 'Littoral 2014' event by Klaipeda University and Coastal & Marine Union (EUCC).

At EU-level, the project targeted seven important bird species and two fish species, as well as one habitat type – reefs, thus addressing respectively the Birds and Habitats directives. It also contributed to implementation of these two nature directives by extending the Natura 2000 network of sites in the Baltic Sea. In addition, LIFE DENOFLIT supports the key objective of the Seventh Environment Action Programme to protect and conserve the Union's natural capital by better implementation of existing EU legislation related to protection of marine environment.

At regional level, the project results complement the aim of the Baltic Sea Action Plan, to maintain and restore favourable status of the Baltic Sea biodiversity and to restore the good ecological status of the Baltic marine environment by 2021. At the same time, key deliverables support the goals of the Marine Strategy

Framework Directive and the overall maritime spatial planning (MSP) process in Lithuania.

An important result is the designation of the two marine protected areas covering a total area of 52 700 ha: the Klaipeda- Ventspils Plateau biosphere polygon and the Sambian Plateau biosphere polygon. Of this, some 37 000 ha are located in the Lithuanian EEZ - accounting for 8.7% of the total extent. Extension of the designated offshore MPA into the coastal waters accounts for 15 700 ha (6.9% of national sea territory) and contributes to the overall network of coastal MPA's extending over 79 300 ha (35% of the coastal waters). Both designated MPA's are also N2000 sites due to presence of reefs, covering 26 300 ha of this habitat type.

The newly established SPA on the Klaipeda-Ventspils Plateau provides protection for valuable waterbirds, notably for up to 29 000 velvet scoters (Annex II-listed species of the Birds Directive), which comprises almost 8% of the entire wintering species population in the Baltic Sea, and for up to 7 400 long-tailed ducks (0.5% of birds wintering in the Baltic Sea). The SPA status also ensures protection of these areas from future potential economic developments (e.g. wind farms) and also from the threat of by-catch in commercial fishing gears. Firstly, it provides protection from gillnets, which while not used extensively in the area so far, could have presented a potential future threat. (Gillnet fishing will be restricted on approx. 6 500 ha of most valuable reefs.) Benthic trawling restrictions will also protect the most valuable feeding grounds of wintering velvet scoters on the Klaipeda-Ventspils reef. Although trawling activity in this area is highly irregular, it is the only territory with such restriction in Lithuanian marine waters. Its ban is thought likely to have a positive effect on feeding habitats of velvet scoters that feed primarily on sandy bottoms that are also particularly susceptible to damage from the bottom trawling.

Habitat inventory data indicates a better condition of targeted offshore reefs compared with the deteriorated coastal reefs. In contrast, data obtained on wintering birds proved a decreasing overall trend in numbers of several species, however relatively high concentrations in areas where MPAs were designated. It is felt that data obtained on abundance of wintering birds in adjacent territories of MPAs at the Klaipeda-Ventspils Plateau, may become important in the future, particularly if the status of species' populations will decrease.

Fish inventory results indicate poor condition of both targeted fish species. The data show that deterioration of the population status may take place during a very short time-frame, e.g. within 1-2 years for twaite shade. Therefore, conservation efforts needs to be focused on the monitoring of twaite shade stocks and status assessment in the spawning sites by observing numbers of spawners rather than marine sites which most likely serve migration routes for targeted fish species.

Replicability and transferability of all field inventory actions is ensured through the use of scientifically accepted methods, as well as public availability of information on methodology and results. This is particularly important for neighbouring countries, the Russian Federation and Republic of Latvia due to cross-border nature of protected species and habitats present in the designated sites. The bird telemetry study also has clear demonstration value, due to very low number of such applications in marine sciences in Europe.

Finally, the innovative bird satellite tracking technology used during LIFE DENOFLIT provides invaluable data on bird movements. It also kick-started bird telemetry studies of other species on the national level. This activity has also developed into wide international cooperation in this field, resulting, among other things, in an international proposal for a wide-scale sea-bird telemetry study across the Baltic Sea. If successful, it will be a qualitatively new approach to the conservation of vulnerable waterbird species across the entire region.

Further information on the project can be found in the project's layman report and After-LIFE Communication Plan (see "Read more" section).

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Environmental issues addressed:

Themes

Habitats - Marine

Keywords

marine ecosystem, migratory species, protected area, Inventory

Target EU Legislation

- Marine environment and Coasts
- Directive 2008/56 - Framework for community action in the field of marine environmental policy (M ...
- Nature protection and Biodiversity
- Directive 92/43 - Conservation of natural habitats and of wild fauna and flora- Habitats Directiv ...
- Marine environment and Coasts
- COM(2013)133 - "Proposal for a Directive establishing a framework for maritime spatial planning a ...
- Nature protection and Biodiversity
- Directive 2009/147 - Conservation of wild birds - Birds Directive (codified version of Directive ...

Target species

Alca torda Alosa alosa Alosa fallax Cepphus grylle Clangula hyemalis  
Coregonus lavaretus Gavia arctica Gavia stellata Melanitta fusca Uria aalge

Target Habitat types

- 1170 - Reefs

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Klaipeda University
Type of organisation	University
Description	Coastal Research and Planning Institute (CORPI) is a research and education unit in the Klaipeda University, the only coastal university in Lithuania. The main tasks of the institute are to facilitate development of interdisciplinary coastal marine and estuarine science, support environmental studies at the university and meet the practical needs of the region in applied environmental research. In 2002 CORPI was named a 'centre of excellence' in the then accession states of the EU.
Partners	Institute of Ecology-Vilnius University, Lithuania Lithuanian State Centre for Pisciculture and Fishery Research State service for Protected Areas under the Ministry of Environment, Lithuania Baltic Environment Forum, Lithuania Lithuanian Sea Museum

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Administrative data:

Project reference	LIFE09 NAT/LT/000234
Duration	01-OCT-2010 to 31-MAR -2015
Total budget	1,569,699.00 €
EU contribution	784,849.00 €
Project location	Klaipedos apskritis(Lithuania Lietuva) Extra-Regio(Lithuania Lietuva)

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Read more:

Project web site	<a href="#">Project's website</a>
Publication: After-LIFE Conservation Plan	Title: After-LIFE Conservation Plan Year: 2015 Editor: Klaipėda University No of pages: 13
Publication: Book	Title: "The Book of the Sea: The realms of the Baltic Sea" (2.99 MB) Author: Žymantas Morkvėnas, Darius Daunys (editor) Year: 2015 Editor: Baltic Environmental Forum No of pages: 79
Publication: Feasibility study	Title: "Nauju saugomu teritoriju Lietuvos isskirtineje ekonomineje zonoje baltijos juroje steigimas - sambijos plynaukstes baltijos juroje ir klaipedos ventspilio plynaukstes baltijos juroje biosferos poligonu ribu planu rengimas" (5.95 MB) Year: 2014 Editor: Kuriame Lietuvos ateiti No of pages: 8
Publication: Layman report	Title: Layman report Author: Darius Daunys <i>et al</i> Year: 2015 Editor: <i>Baltic Environmental Forum Lithuania</i> No of pages: 8
Publication: Proceedings	Title: "Summary protocol from DENOFLIT 1'st Advisory Board meeting (21 October 2011, Vilnius, Lithuania): "Recommendations on methods used in project inventory actions A1A3"" (668 KB) Editor: Ministry of Environment Republic of Lithuania No of pages: 9
Publication: Proceedings	Title: "Littoral 2014: Facing Present and Future Coast Challenges: Abstract book" (8.2 MB) Year: 2014 Editor: Klaipėda University No of pages: 145
Publication: Technical report	Title: Project's Final technical report Year: 2016 Editor: Klaipėda University No of pages: 37
Publication: Technical report	Title: "Evaluation of diversity and distribution of habitats, fishes and birds in the Lithuanian exclusive economic zone for development of NATURA 2000 network: Technical report" (10.1 MB) Author: Darius Daunys, Aleksej Šaškov, .. [et al] Year: 2015 No of pages: 138

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