Högskolan på Gotland
Gotland University

IfAÖ
Institut für Angewandte Ökologie GmbH

PRESS RELEASE

Interaction between the seabed, water birds and man in a changing Baltic Sea environment

Research project on the Baltic Sea environment

The Department of Biology at Gotland University and the Institute for Applied Ecology in Rostock, Germany, are to undertake a three year research project on interactions between seabed, water birds and man in a changing Baltic Sea environment. The project, which will be funded by Nord Stream AG, will focus on the biodiversity of shallow water areas east of Gotland, on Hoburgs Bank south of Gotland and in the Pomeranian Bight.

These areas are important for fishery as well as globally important for several species of water bird. Intensively used shipping routes also cross the areas. The areas harbour, among other species, approximately two millions long-tailed ducks, or about 50 % of the European population in winter. Sea ducks like the long-tailed duck depend on abundant benthic food in coastal waters and offshore banks and may therefore serve as model organisms for the study of seabed/water bird interactions.

The overall aim of the project is to link high quality data on seabed structure, bottom fauna and water bird populations and to identify the most important interactions that influence bird densities and make certain sites especially valuable for water birds during wintering and migration.

A further aim is to investigate the effects of human use of the sea and environmental change on the benthic fauna and water bird populations.

The collected data and results of the project can be used by administrative bodies for conservation of biodiversity and for further spatial planning of the areas.

- Kjell Larsson, professor in Ecology at Gotland University says: This project will be a unique opportunity for gaining a better understanding of the importance of the Baltic Sea for wintering and migrating seabirds. It will also better enable us to predict the future population development of sea ducks in the Baltic Sea.

- Dirk von Ameln, Deputy Technical Director of Nord Stream AG comments: .As a European company connecting countries around the Baltic Sea, Nord Stream has a strong commitment and responsibility to preserve the ecosystem of the Baltic Sea. We are therefore very pleased to support an independent research project that will increase our knowledge of the Baltic Sea environment and the interaction between the seabed and water birds in different areas in the region.

A more detailed description of the project is attached to this press release.

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Project description

Aims and scope

The project will focus on the biodiversity in shallow sea areas east of Gotland, on Hoburgs Bank south of Gotland and in the Pomeranian Bight. These areas are important for fishery as well as globally important for several species of water bird. Intensively used shipping routes also cross the areas. The areas harbour, among other species, approximately two millions long-tailed ducks, or about 50 % of the European population in winter. Sea ducks like the long-tailed duck depend on abundant benthic food in coastal waters and offshore banks and may therefore serve as model organisms for the study of seabed/water bird interactions

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Project partners

The project is to be further developed by a steering group including the primary partners and experienced advisors working on marine ecology or seabirds in the Baltic. Some of them may take part in the project where useful. This group can be enlarged during the course of the project whenever necessary. The following members should be involved in the development of the project:

- Gotland University – Department of Biology (Visby, Sweden)
- IfAÖ – Institute for Applied Ecology Ltd (Rostock, Germany)
- Nord Stream AG

Further participants from other universities in the Baltic Sea region will be invited to take part in project

Activities

The project will link research on seabed conditions, benthic fauna, avian ecology and human activities at sea. It should therefore use a variety of approaches such as:

- Surveys of bottom structure in selected study plots (e.g. bathymetry/sonar, video, ROV)

- Sampling of benthic fauna in selected study plots (including sampling of mussel beds by divers)
- High-resolution water bird surveys (mainly aircraft-based)
- Estimation of demographic and genetic parameters of water birds (e.g. reproduction, mortality, genetic differentiation)
- Assessing the current population status and trend and modelling current and future distribution and population development of water birds
- Analyses of fish / fishery data

The required extent of each activity depends on the amount of data already available for the study areas.

Optional activities (importance and limitations to be discussed during planning)

- Data on benthic fauna and long-tailed ducks at wintering sites in Latvia and Estonia (Irbe strait)
- Satellite telemetry of long-tailed ducks

As some of the bird species in focus occur only in fairly inaccessible areas, the project will have to rely on recent technological developments and sophisticated methods. Fieldwork will have to be done from ships and aircrafts as well as by remote sensing and modelling techniques. A variety of partners with special skills in these fields will have to be involved.