

## Research for nature conservation

### Project iSeal develops indicators for future recommendations for action to reduce anthropogenic stressors

The Lower Saxony and Schleswig-Holstein Wadden Sea National Parks are marine protected areas of the North Sea that make an essential contribution to the conservation of the natural biodiversity of species, processes and habitats.

The **iSeal** project investigates the impacts of various anthropogenic stressors on coastal ecosystems in both national parks in the context of existing guidelines and marine conservation conventions.

The focus of our project lies on the analysis of possible effects of invasive species or climate change on the structure and function of food webs, as well as on selected key species, such as the blue mussel.

Within the framework of these studies, time series from monitoring and long-term data are analysed and mesocosm experiments are conducted. The detection of invasive species using eDNA is tested and social-ecological network analyses are performed.

The first mesocosm experiments to investigate the effects of temperature increases were successfully carried out in 2022. The second series of experiments to analyse the impact of invasive species is currently running.



To develop recommendations for action, a first workshop was held in October 2022 with various stakeholders involved in the project. Based on this workshop, we could identify the most important topics aligning with the interests of the stakeholders. Another upcoming workshop will focus in more detail on the topic of invasive species.



Another significant milestone was reached in December 2022. The OSPAR Biodiversity Committee (BDC) approved a pilot study on the use of Ecological Network Analysis (ENA) for food web assessment.

Thereby, the results of the food web models from the Schleswig-Holstein Coastal Sea are not only used at national level in the MSFD status assessment, but are also included in the assessment at international level.

Based on the results of the **iSeal** project, measurable and applicable target and threshold values will be developed to assess the good ecological status of the Wadden Sea.

Our objective is to create a basis as well as tools for a uniform implementation in the nature conservation practice of the national parks. Close cooperation with national, trilateral and international expert groups enables a broad transfer.

## Consortium

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The "iSeal" project is funded by the Federal Ministry of Education and Research (BMBF) under the funding code 03F0913A-F.



For further information, visit our website [www.iseal-project.org](http://www.iseal-project.org).

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Project duration: 01.12.2021 - 30.11.2024