Additional measures to combat eutrophication

Lagoons along the South Baltic Sea have been heavily impacted by humans for decades and nutrients such as phosphorus and nitrogen have accumulated in the sediments. Although nutrient inputs have been reduced over the last years, the lagoons still suffer from internal loading. Therefore, in addition to mitigation measures at land, internal measures are urgently needed in order to achieve the good ecological status required by the Water Framework Directive. One option to remove the internally accumulated nutrients is phyto-remediation and the use of 'active barriers' such as floating macrophyte islands.

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Project Partners

KLAIPEDA UNIVERSITY (LT)

• www.ku.lt

EUCC - THE COASTAL UNION GERMANY E.V. (DE)

• www.eucc-d.de

IBW PAN - INSTITUTE OF HYDRO-ENGINEERING OF THE POLISH ACADEMY OF SCIENCES (PL)

• www.ibwpan.gda.pl

CURONIAN SPIT NATIONAL PARK (LT)

• www.nerija.lt

IBW PAN

EUCC-D

KURŠIŲ NERIJOS NACIONALINIS PARKAS

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Landscape photos A. Flöter & A.-H. Purre, cover photo G. Grazulevicius

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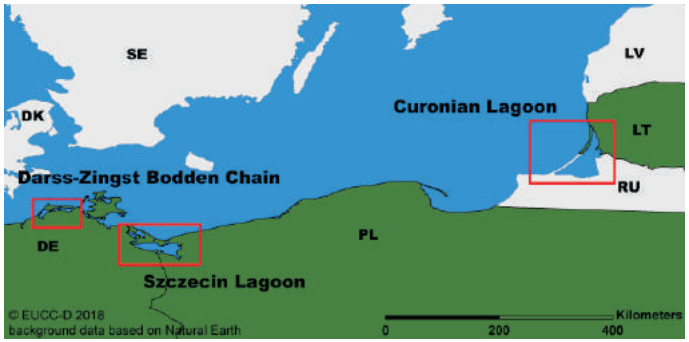
The use of active barriers for the nutrient removal and local water quality improvement in Baltic lagoons

Floating macrophyte islands

Active barriers such as floating macrophyte islands offer a variety of ecosystem services. Floating macrophyte islands are able to:

- Remove nutrients from eutrophicated waters
- Attenuate water flow and wave energy
- Enhance sedimentation and sediment stability
- Promote biodiversity
- Offer habitats for microbes, insects and birds
- Contribute to recreation and tourism
- Provide biomass for further utilization
- Create an atmosphere of innovation and blue growth in coastal communities

Pilot installation sites



Floating islands with emergent macrophytes such as sedges (Carex), cattail (Typha), reed (Phragmites), yellow flag (Iris pseudacorus) or purple loosestrife (Lythrum salicaria) will be installed, maintained and harvested in different lagoons along the South Baltic.

These “active barriers” can be placed anywhere in the lagoons where nutrient removal and improvements in water transparency are needed most urgently. Coastal municipalities are supported by our experts to find the best installation sites for the floating wetlands in order to maximize nutrient removal, gain additional aesthetic benefits to boost tourism and to prevent spatial conflicts of use.

Nutrient quota trading

Besides the envisaged local improvements in water quality, we aim to increase awareness among local stakeholders who are interested in 'green innovations for blue growth'. Furthermore, the installations of the islands will be linked to nutrient quota trading mechanisms for connecting effective nutrient abatement measures with voluntary financiers willing to acquire nutrient offset (EU Project NutriTrade - www.nutritradebaltic.eu).

Contact LiveLagoons

Prof. Dr. Arturas Razinkovas-Baziukas
Klaipeda University
H. Manto 84, LT - 92294 Klaipeda, Lithuania
Tel. +370 46 398720, Fax: +370 46 398845
Email: arturas.razinkovas-baziukas@ku.lt