

# 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 were reduced in the last years, the lagoons still suffer from internal loading. Therefore internal measures are urgently needed in addition to mitigation measures at land in order to achieve the good ecological status required by the Water Framework Directive. One option to tackle 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](http://www.ku.lt)

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

[www.eucc-d.de](http://www.eucc-d.de)

IBW PAN INSTITUTE OF HYDROENGINEERING (PL)

[www.ibwpan.gda.pl](http://www.ibwpan.gda.pl)

CURONIAN SPIT NATIONAL PARK (LT)

[www.nerija.lt](http://www.nerija.lt)



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[www.balticlagoons.net/livelagoons](http://www.balticlagoons.net/livelagoons)

## LiveLagoons

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 island 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 aesthetics benefits to boost tourism and still prevent spatial conflicts of use.

# Nutrient quota trading

Besides the envisaged local improvements in water quality, we aim to increase awareness among local stakeholders 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](http://www.nutritradebaltic.eu))



# Contact LiveLagoons

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