Policy Brief # 3

Introduction – Floating wetlands as biodiversity hotspots

- Most lagoons along the southern Baltic Sea are dominated by reed (*Phragmites australis*) which tends to form monocultures and limits biodiversity.
- On floating wetlands, native wetland plants can be used to enhance biodiversity and provide an additional habitat that is attractive to wildlife.

Habitats for birds, amphibians, fish and insects

As well as plants, other organisms can benefit from a newly structured habitat leading to further increases in biodiversity.

- ✓ Fox & otter
- ✓ Birds (e.g. grey heron, sparrow, great tit, ducks)
- ✓ Eels & shrimps
- ✓ Insects

- → Fox and otter used floating wetlands during the night as a hunting and resting place
- → Grey heron mostly hunts in the early morning hours
- → Juvenile eels searched for protection from predation in the root space
- → Floating wetlands can lead to more diverse fish & invertrebrate species, providing shelter as well as food sources

Analysis of webcam data on floating wetlands in the Darss-Zingst-Bodden Chain was performed from December 2020 until June 2021. All photos were taken by EUCC-D.

Micro-organisms and floating wetlands

- Plant roots create favorable habitats for microorganisms
- Diverse plants on floating wetlands increase the biodiversity of microorganisms in the root space
- A larger root space and larger substrate surface areas lead to an increase of biofilm development
- Biofilm contributes to nutrient removal of phosphorus and nitrogen and acts as a food source for zooplankton and fish

Recommendations

- ✓ Alternate plants instead of promoting monocultures on floating wetlands
- ✓ Plants near to installation sites should be mapped
- ✓ Offer diverse plants to attract more species
- ✓ Determine biodiversity objectives as they can vary considerably on location
- ✓ Invasive species could occur on floating wetlands → plan for interventions
- ✓ Consider installing floating wetlands further offshore where they offer attractive resting and nesting areas for birds

More information

Bi et al. (2019). Giving waterbodies the treatment they need: a critical review of the application of constructed floating wetlands. Journal of Environmental Management, 238, 484-498.

Karstens et al. (2021). Constructed floating wetlands made of natural materials as habitats in eutrophicated coastal lagoons in the Southern Baltic Sea. Journal of Coastal Conservation, 25(4), 1-14.

Muench et al. (2007). The root surface as the definitive detail for microbial transformation processes in constructed wetlands – a biofilm characteristic. Water Science & Technology, 56, 271-276.

www.balticlagoons.net/livelagoons

The contents of this brochure are the sole responsibility of the authors and can in no way be taken to reflect the views of the European Union, the Managing Authority or the Joint Secretariat of the South Baltic Cross-border Cooperation Programme 2014-2020.

LiveLagoons

interreg South Baltic

EUROPEAN UNION

European Regional Development Fund