Policy Brief # 1

Background – Floating wetlands and remediation of eutrophication

One option to tackle internally accumulated nutrients in eutrophicated coastal waters is phytoremediation and the harvest of emergent macrophytes. Besides the harvest of natural wetlands, a new solution has arisen: Floating wetlands! Floating structures are planted with native emergent macrophytes. The plant roots adsorb phosphorus and nitrogen directly from the water, enhance particle settling due to the reduction of flow velocity and offer diverse habitats for fish, birds and insects.


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How to choose the right plant species?

- ✓ Use native and non-invasive emergent macrophytes.
- ✓ Choose perennial plants, if possible with aerenchyma (“*air channels*”).
- ✓ Consider local environmental conditions, e.g. salinity and climate.
- ✓ Think about biomass utilization (e.g. fodder, energy, construction material) before harvest.
- ✓ Decide if you want to use the floating islands also as biodiversity hotspots (e.g. integration of endangered species such as *Iris pseudacorus*) or tourist attraction (e.g. integration of flowering plants such as *Lythrum salicaria*).

Recommendations – What to consider prior to installations?

- ✓ Talk to stakeholders and make a list of possible installation sites.
- ✓ Gather information regarding environmental conditions and location factors.
- ✓ Water depth, water level fluctuations, waves and currents influence anchoring.
- ✓ Take into account regional fisheries, tourism, maritime traffic and nature protection areas in order to prevent spatial conflicts of use.
- ✓ Get informed about regional laws and regulation

Case study	Permits required (national language):	Permits required (English):	Relevant laws:	State authority (national language):	State authority (English):
Szczecin Lagoon, Mecklenburg-Vorpommern, Germany	Naturschutzrechtliche Genehmigung	Permission issued under environmental law	§13-18 BNatSchG, §40 NatSchAG M-V	Untere Naturschutzbehörde LK Greifswald-Vorpommern	Nature conservation authority of the district
	Wasserrechtliche Erlaubnis	Permission issued under water law	§8/9/43 WHG + §23/89 LWaG	Untere Wasserbehörde StALU Voprommern	Lower level water authorities
	Strom-und schifffahrtspolizeiliche Genehmigung	License of the river and shipping police	§31 WaStrG	Wasserstraßen-und Schifffahrtsamt WSA Stralsund	Waterways and Shipways Office
Puck Bay Pomorskie, Poland	Pozwolenie na wznoszenie i wykorzystywanie sztucznych wysp, konstrukcji i urządzeń	Permit for construction and usage of artificial islands, constructions and devices	Ustawa z dnia 21 marca 1991 r. o obszarach morskich i administracji morskiej - Art. 23	Urząd Morski w Gdyni	Maritime Office Gdynia
	Zgoda na zajęcie obszaru morskich wód wewnętrzynych	Permit for use of internal marine waters area	Prawo Wodne, art. 20 ust. 1, pkt. 4	Urząd Morski w Gdyni	Maritime Office Gdynia
	Uzgodnienie sposobu oznakowania wyspy	Agreement on a way (method) of marking the island	Rozporządzenie Ministra Transportu, Budownictwa I Gospodarki Morskiej z dnia 4 grudnia 2012 r. w sprawie oznakowania nawigacyjnego polskich obszarów morskich	Kapitanat portu we Władysławowie	Władysławowo harbour authority
Curonian Lagoon Neringa, Lithuania	Leidimas	Permit for the construction in the coastal zone	LR vidaus vandenų transporto kodeksas	Vidaus vandenų kelių valdytojais (Neringos savivaldybė)	Neringa municipality
	Leidimas	Permit for the construction in the waterways and port areas	LR vidaus vandenų transporto kodeksas	Aplinkos Apsaugos Agentūra	Environmental Protection Agency
	Poveikio aplinkai vertinimas	Environmental Impact Assesement	LR Planuojamos ūkinės veklos PAV įstatymas	Klaipeda Regioninnė Aplinkos Apsaugos Agentūra	Klaipeda Regional Environmental Protection Agency

More information

Karstens, S., Nazzari, C., Bâlon, C., Bielecka, M., Grigaitis, Z., Schumacher, J., Stybel, N., Razinkovas-Baziukas, A. (2018): Floating wetlands for nutrient removal in eutrophicated coastal lagoons: Decision support for site selection and permit process. Marine Policy 97, 51-60.

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