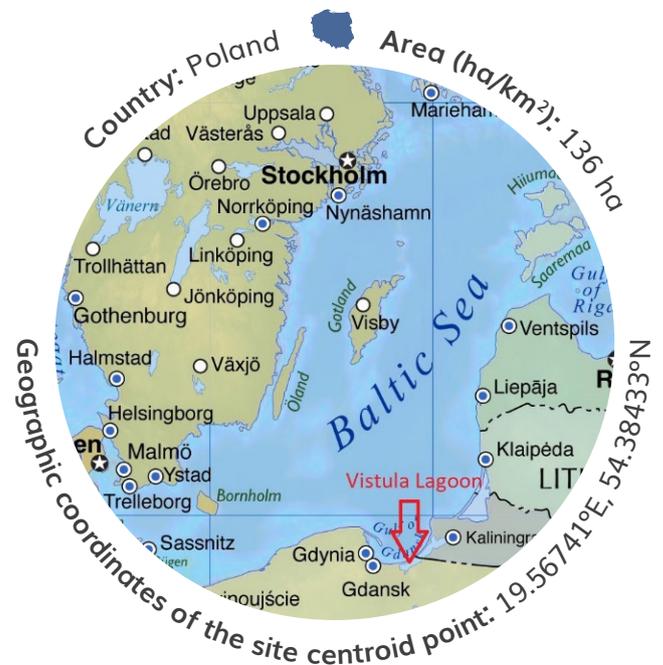


Vistula Lagoon Artificial Island Pilot Fact Sheet

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Ecosystem type

Coastal Lagoon (habitat type 1150 according to EUNIS marine habitat classification 2019)

Key habitats

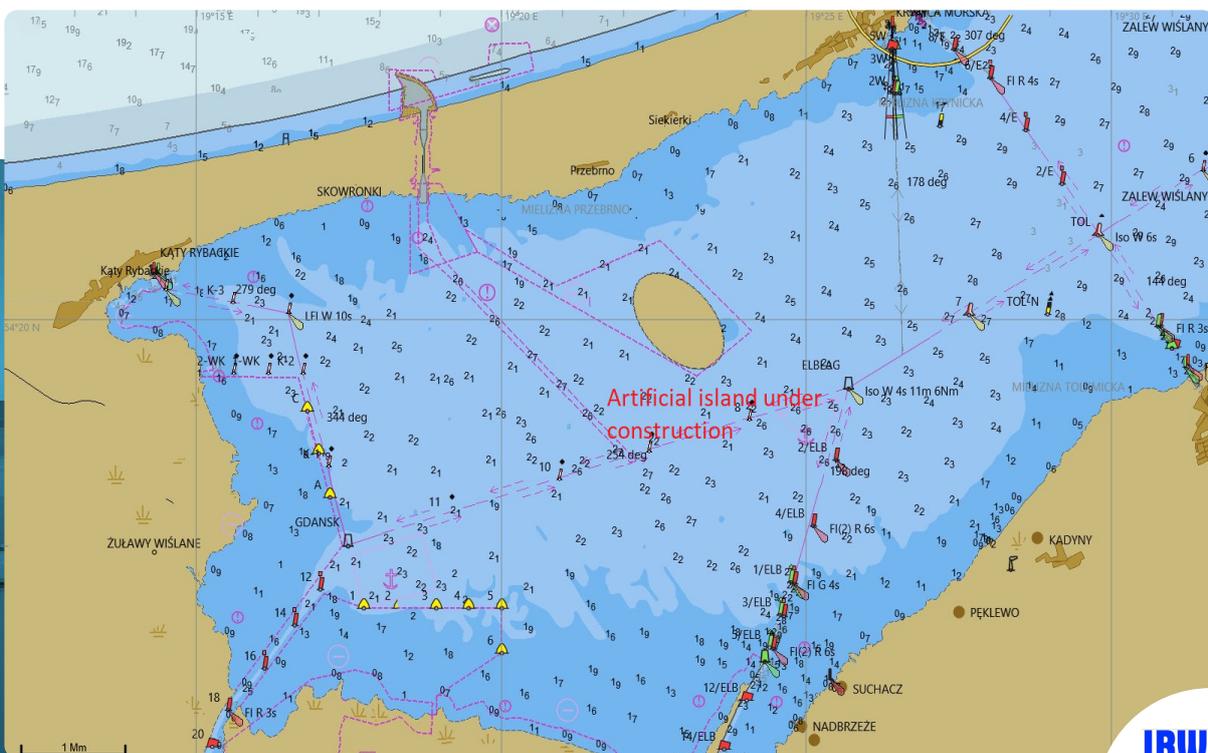
Coastal Lagoons (1150), Large shallow inlets and bays (1160), Estuaries (1130), Baltic boreal narrow inlets (1650)

Key species

Gadwall, shoveler, widgeon, grey, bean and white-fronted geese, snipe, northern lapwing, redshank, little tern, Little ringed plover, common ringed plover, dunlin

Organisation responsible for the pilot

Institute of Hydro-Engineering, Polish Academy of Sciences (IBW PAN)



This project receives funding from the European Union's Horizon 2020 Innovation Action under grant agreement No 101037097.



Pressures, threats and issues

Increasingly difficult relations with Russia triggered the construction of an independent passage from the Baltic Sea to the Polish part of Vistula Lagoon, completed in Sept. 2022. The Polish part of the lagoon is a NATURA2000 site, so environmental disturbances need to be compensated. Thus, the 1st Polish biodiversity restoration project was launched, incorporating the building with nature paradigm as an artificial island providing habitats for targeted bird species. The new infrastructure requires extensive earth works to cut the Spit and dredging operations during and after execution of the project.

136ha will be filled during the construction phase of the island and the remaining 45 ha will serve as operational sediment storage facility. The main innovation is managed vegetation of the larger part by periodic mowing of planted grasses to foster its colonization by birds targeted for restoration in or-

der to enhance their wellbeing. Hence, shrubs will be eliminated to discourage cormorants – once an endangered species, but nowadays overabundant in the area.

Expected impact of the project

The primary restoration function is the provision of the resting grounds for ducks (gadwall, shoveler, widgeon), grey, bean and white-fronted geese, and later the hatching grounds for snipe, northern lapwing and redshank. These services will be protected by restricted access to the site, enforced by coastal authorities, and monitored with the assistance and advice of ornithologists. Later, shallow seabed rimming the island's banks will be naturally transformed into a spawning area of important, local fishes (bream, pike perch) by inducing natural appearance of reeds. In this way nature based solutions are promoted. Development of this spawning ground will be consulted with ichthyologists.



The island under construction



Female gadwall



White-fronted goose



Snipe



Bean goose



Male northern shoveler



Male and female widgeon



Northern lapwing



Greylag goose



Common redshank

Stakeholders

Maritime Office in Gdynia (MO)– governmental agency exercising full jurisdiction in coastal areas: they are the main stakeholder in the area with competences to restrict access to the artificial island

...serving as biodiversity restoration habitat. Their institutional powers are absolutely necessary for project success. The Polish Society for the Protection of Birds (OTOP) will be consulted during project implementation. IBW PAN, MO and OTOP will form the core-plat for Vistula Lagoon pilot.



Vistula Lagoon Spit: Baltic Sea – left, the lagoon – right

Key variables of relevance to REST-COAST

Carbon storage implications. Apart from restoration performance, the site will be investigated in terms of carbon storage potential using the TESSA toolkit. The results will be compared with a similar island in Szczecin lagoon, the other large Polish transboundary lagoon, where another artificial island was built in early 20th Century and vegetated naturally; the main aim of this comparison is to identify potential carbon storage benefits of managed vs. natural vegetation.

Out- and up-scaling implications. Rapid expansion of navigation infrastructures in Poland generates conditions for out- and upscaling of this pilot proj-

ect; currently three artificial islands are planned in the Szczecin lagoon. Moreover, the experience gained during implementation of this pilot can be utilized as a more general approach to biodiversity restoration in basins, mostly lagoons and estuaries, located in moderate latitudes.



The island – june 2021



Frombork town on Vistula Lagoon southern bank where Copernicus lived for many years and was buried here; his tomb is a vital tourist attraction