



ROESS\_group





## Project report

Technical project for the renovation of woodenspurs (groynes) located east of the Port of Darłowo



## Site location

The site is located on the seashore area, east of the Port of Darłowo, Poland.

## Situation before renovation

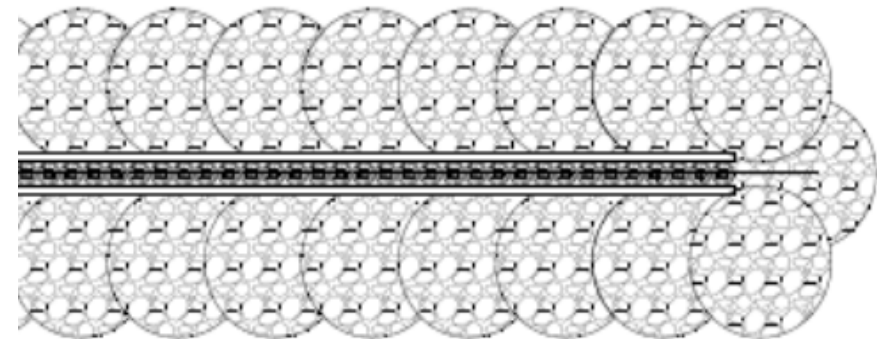
The shore protection system includes a group of 53 Groynes with an average length of approx. 110 m. 39 are „I” type, while the remaining 14 are „T” type. The existing wooden Groynes have suffered a lot of damage and needed urgent repair. The damage generated disturbances of the water currents in the coastal zone, reducing sedimentation capacity. Taking into account the rapid progress of erosion of the seashore in the area, further unfavorable changes in the coastal zone and position of the coastline could not be excluded.

Additionally, groundwater levels have an impact on shaping the structure of bank fortifications. The amplitude of extreme states is 266 cm. The average condition for the port of Darłowo is 507 cm. The highest states of the sea were observed in the autumn-winter months (November to January), most often in November. The lowest states of the sea currently occur in the winter months (February to March), most often in March.

## Design solution for renovation of the existing spurs – description of the planned structure of the shore reinforcement

The new project involved the renovation of 53 existing wooden Groynes. In connection with the renovation, piles that have been deflected or damaged were removed. New piles, longer than those previously existing were driven in. In addition new clamping was installed.

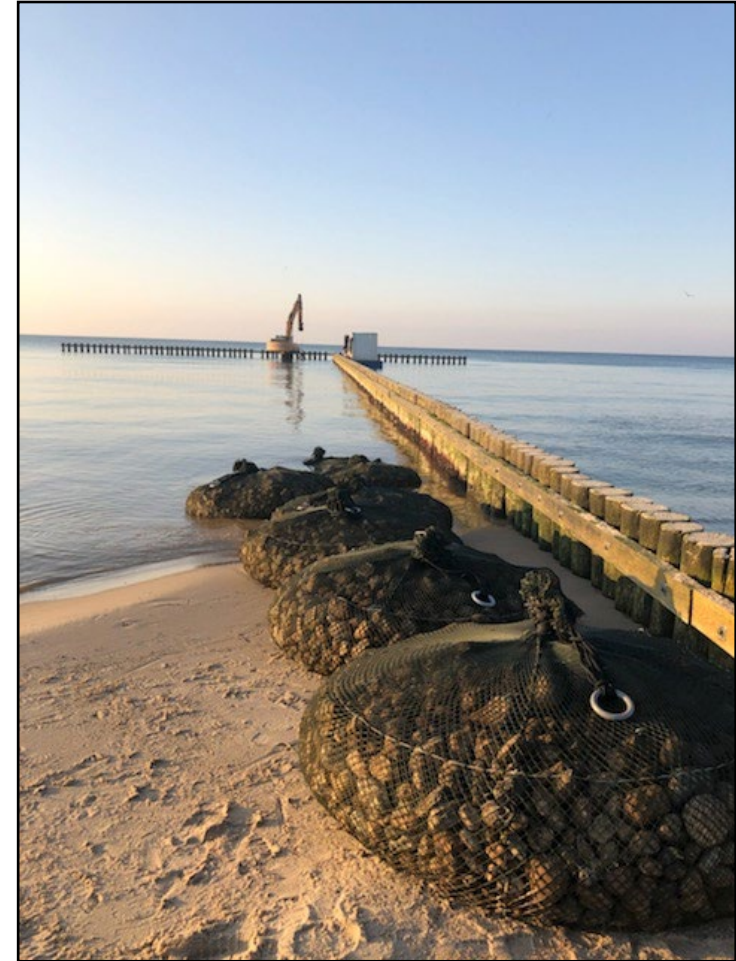
After the reconstruction of the Groynes the bottom was strengthened with the use of anti-erosion nets filled with stones (2T AquaRockBags<sup>®</sup>) - as shown in the picture.





## Reasons for choosing AquaRockBags<sup>®</sup>

- The AquaRockBag<sup>®</sup> filling and installation process is quick, safe and easy which results in big savings on labour costs. (In this project the bags were filled on the warehouse yard and transported to the site, ready for easy installation.)
- The AquaRockBag<sup>®</sup> provides substratum for numerous faunal and invertebrate species which gives ecological benefit.
- AquaRockBags<sup>®</sup> absorb water energy, preserving natural processes and minimizing the impact on the substrate.



## Project pictures during installation





## Project pictures during installation





