The story of the pilot 8+fjordar

Mid term assessment report

MANABAS COAST
NATURE-BASED SOLUTIONS

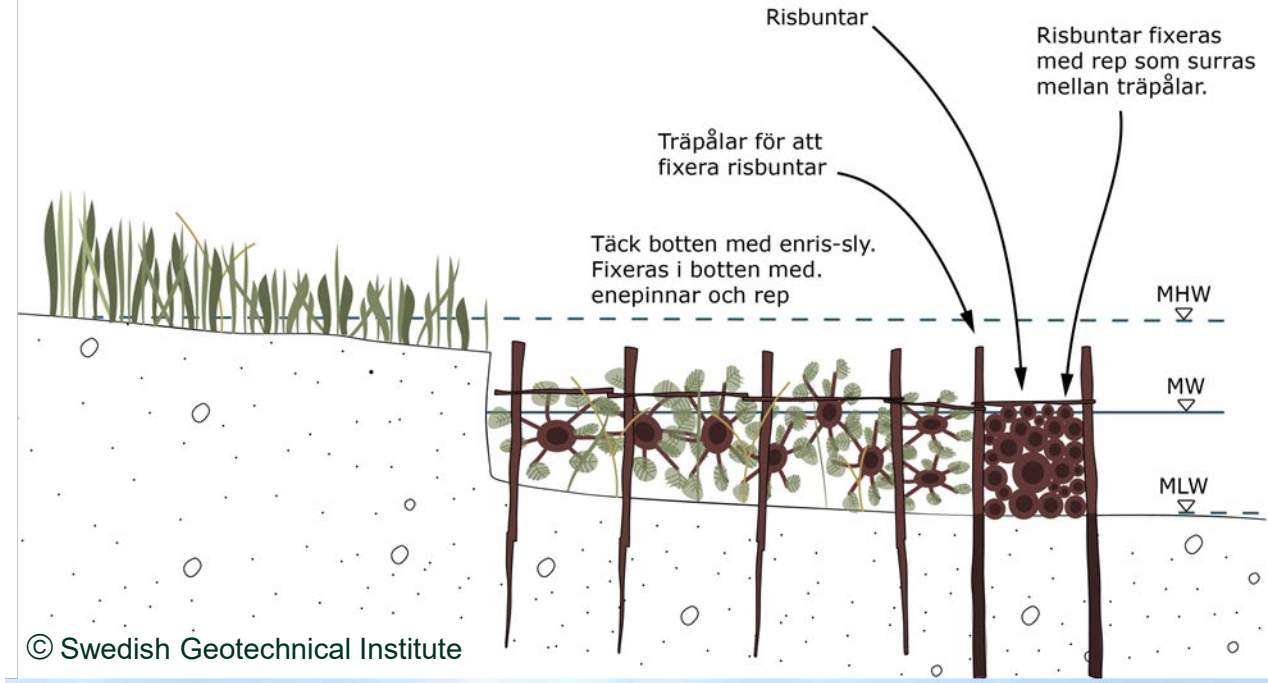
MANABAS COAST | Interreg North Sea
Co-funded by the European Union

Context for the 8+fjordar

- Three pilot sites on the west coast of Sweden, north of Gothenburg.
- The pilot sites are characterized by a rocky coast with a lot of small islands and skerries. In between there are smaller areas with salt meadows, adjacent to shallow marine soft bottoms mainly consisting of silt and clay.
- The sensitive salt meadows adjacent to farmland are eroding and water quality of the adjacent shallow bays needs to be improved.

The NBS opportunity

- Ensuring that the value of the Natura 2000 habitats in the pilot areas do not decrease. The area, the structure and functions, as well as the typical species should be intact.
- Implementing NbS in the form of tree and brushwood fences and sills of stones and gravels, with materials from the landowners' property.
- Working from the bottom-up to show landowners, coastal managers and municipalities the benefits of using NbS to prevent erosion and improve water quality.



Problems: barriers to mainstreaming

- **Natural system:** We are dependent on having functional NbS as good examples. There is no previous experience in Sweden in building NbS to prevent salt meadows from eroding, so we do not know yet if they will function as intended.

- **Social system:** Many landowners question if NbS will work.
  Some people think that nature should take its course and that we should not interfere.
  There is an excess of information in society. It can be difficult to reach the target groups with information.

- **Governance system:** It is difficult and time-consuming to get the proper permits and procurements. Lack of financing and dedicated human resources are other problems.
  We would like to work more closely with other national authorities as well, such as the Swedish Environmental Protection Agency and The Swedish Board of Agriculture.

Solutions: mainstreaming actions

- **Natural system:** We will produce a step-by-step guide with good examples of how different NbS can help protect salt meadows from eroding and increase sedimentation, using cheap and local materials.
- **Social system:** We work with different types of stakeholders – landowners, municipalities, coastal managers, national authorities etc.
  By producing a newsletter and use social media as LinkedIn and Facebook, we can direct readers to our website. We use citizen science, such as Coast Snap.
- **Governance system:** The guidance produced about using NbS will be written in plain and straight-forward language, including how to apply for necessary permits and useful links about where to find more information.

Progress to date (mid term)

- **Natural system:** We have been building different kind of NbS-structures at the three pilot sites, including barriers. We have also tested to re-introduce eelgrass and blue mussels in one of the adjacent bays.
- **Social system:** We have regular meetings with landowners, coastal managers and municipalities. We are producing a website and newsletters (twice a year) with information on the project and NbS.
- **Governance system:** We have a close cooperation with the Swedish Geotechnical Institute to improve the building of the NbS-structures, exchange knowledge and gain experience.


Photo: Maria Kilnäs

Photo: UNDEKO

Proof: results (successes) so far

- **Natural system:** The hydrodynamic model caused us to change our design of the NbS and where they were placed.
  The combination of using both a drone and Coastal snap for monitoring the shoreline, gives us both a more accurate picture and the variation over time.

- **Social system:** By engaging landowners from the start in both planning and building the NbS, the pilots is developing better and is more accepted.
  By engaging municipalities and coastal managers, the possibility that NbS will be used to restore salt meadows in other locations will increase.
  We have learned a lot from the other pilots, especially the French pilots.

- **Governance system:** We work closely with SGI to set a good example of implementing and monitoring NbS, to hopefully get the government to realise that we need to work more with NbS.

Impact: Mainstreaming objective

- Nature-based solutions should always promote biological diversity.
- It should be less barriers in using nature-based solutions, which always should be a first choice for coastal management, for erosion control and to prevent flooding in the landscape.
- There will be a belief that nature-based solutions work as good as hard solutions.
- Special funds should be allocated for the use of nature-based solutions to prevent salt meadows from eroding.
- Our work will create public awareness and interest in nature-based solutions.

Together with the Swedish Geotechnical Institute (SGI), our aim is to produce a step-by-step guide with good examples of how NbS can be used to protect the eroding salt meadows along the coast.

The NbS should be relatively cheap and easy to build, with materials that are easily available and preferably from the local area.

The guide should be written in a plain and straight-forward language and easy to follow, with a lot of pictures of different designs. It should also include examples on how to finance the NbS, apply for necessary permits and links to more information.

We want the guide to be used by landowners and coastal managers to make them choose to build with NbS. The guide should also be used by national, regional and local authorities to promote NbS.