

Highlight | Restoration action

Dwarf eelgrass

The plant

Zostera noltei Hornemann, 1832 (*dwarf eelgrass*)

Zostera noltei, a grass-like flowering plant also known as dwarf eelgrass, is a seagrass which occurs in the intertidal areas of different coastal systems, such as in estuaries, bays, or coastal lagoons.



Zostera noltei has a wide Atlantic distribution, and in the Ria de Aveiro, it covers more than 230 ha. It supports various biological communities, by providing habitat and protection to annelids, bivalves, gastropods, crustaceans and juveniles of various fish species. It plays an important role in sediment retention, improving the environmental and water quality. The narrow leaves can grow up to 30 cm, and the root and rhizome system allows the species to survive in highly hydrodynamic conditions. The dwarf eelgrass can grow in areas with high turbidity in the water column because it is able to photosynthesize during periods of emersion at low tide. It is being used as a Nature-based Solution (NbS) in ecosystem restoration.

Active ecosystem restoration

*Using *Z. noltei* as a Nature-based Solution in ecosystem restoration*

Ecosystem restoration is defined as ‘the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed’. To ensure the mitigation of climate change effects and loss of biodiversity, while improving food security and environmental quality, in line with the UN Sustainable Development Goals, the UN Decade on Ecosystem Restoration (2021-2030) and the new EU Nature Restoration Law, we must enrol on Active Ecosystem Restoration measures, supported by the best available scientific knowledge.



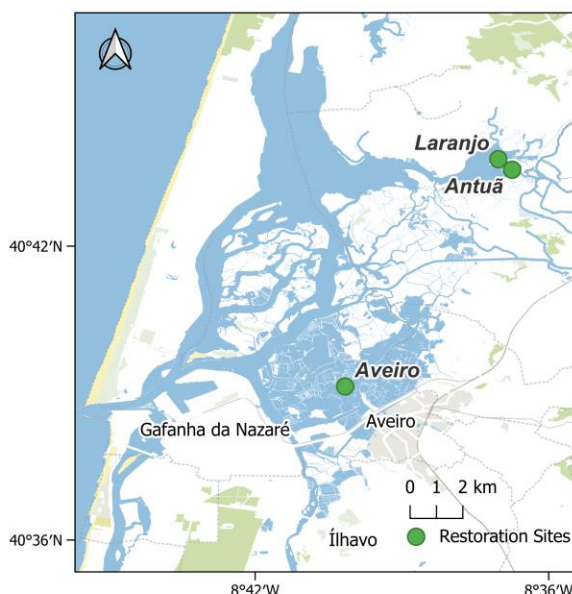
The used restoration protocol is based on the collection of sods (intact units of sediment with seagrasses - undisturbed roots, rhizomes and leaves) from a donor meadow, and transplant into the target area. This method has shown a good cost/benefit ratio, and after the plants' collection, the donor population usually recovers in less than 12 months. Also, the high cohesiveness of the sediments in the sods can improve transplantation success, while allows restoring wider areas than other methods, under similar effort.



Restoration actions in Ria de Aveiro

Scaling-up the restoration

The restoration actions took place in Ria de Aveiro for 6 days (5 in July and 1 in August), on three different areas: Laranjo, Antuã, and Aveiro. These areas were previously confirmed as suitable for the survival of the *Z. noltei* by the previous years' successful restoration actions, the evaluation of the environmental conditions and by the presence recent natural occurring small patches of the species. The source of the dwarf eelgrass sods were, in most cases, on the vicinities of the restoration sites, except for the Laranjo area, where the source was 3 km downstream.



Ria de Aveiro and the location of the restoration sites



All locations (sources/donor meadows and restored sites) are intertidal mudflats, and some suffer impact due to shellfish and bait harvesting by local fisherman. The access to the areas was only possible by boat. The sods were collected and transported on trays, by boat whenever it was possible, but also on a board used as a sledge, pulled by the projects' team and volunteers.

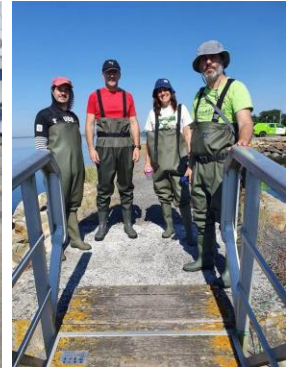


The participants

July 8th, 9th, 10th, 23rd and 24th | August 6th 2024



41 persons took part in the restoration actions during the 6 days. The participants were from different areas within the academia - natural sciences, social sciences, including economics, and communication sciences – and from the industry; the actions were also covered by a local newspaper, with a frontpage highlight.



How to cite:

RiadeAveiro (2024) Highlight from the restoration action of Dwarf Eelgrass, a collaboration between projects of the Horizon Europe programme (A-AAGORA, RESTORE4Cs and REWRITE) and the LIFE programme (SeagrassRIAwild) (EN version) 4 pp.



<https://a-aagora.eu/>



<https://www.restore4cs.eu/>



<https://rewriteproject.eu/>



<https://life-seagrassriawild.web.ua.pt>