Barene - Salt Marshes - protection and restoration using bio-engineering techniques

LIFE99 NAT/IT/006246

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Project description:

Background

Since 1939 the Venetian Lagoon, in the Northern Adriatic, has been classified as a protected exceptional landscape and environment. The north of the lagoon in particular, which is proposed as a Site of Community Importance, is the most natural part of it. It is the most extensive wetland in Italy and the only one in the Northern Adriatic, which has all the features of saline wetlands.

The sandbanks, which consist of consolidated sediment and its vegetation, is the most typical biotope in this environment, rich in habitats and species which have been assigned priority by Directive 92/43/EEC.

The lagoon landscape is gradually deteriorating as the sandbanks disappear. This is because there are not enough deposits of river sediment and also because of natural erosion, which is aggravated by the wash of fast motorboats. Recent studies in the northern part of the lagoon have showed that sandbanks are receding by one metre in winter and as much as ten metres in the summer, as a result of the increase in water traffic.

Objectives

The basic aim of the project was to restore and protect various morphological and vegetation features of the sandbanks, within an area of more than 1000 hectares. The preproject included measures to enable ecosystems to become more resistant to negative influences in order to improve the conservation of saline habitats of community interest.

Various bioengineering techniques were to be used to halt this degradation, all of low impact or temporary, and not affecting the environmental, morphological,
hydrodynamic or landscape features of the sandbanks.

Beach-fill techniques were to be used to reconstruct sandbanks where erosion is worst, and initial colonies of salt-loving plants were to be sown or planted to stabilise them. The realization of biodegradable structures to combat erosion in the water surrounding the sandbanks and to encourage the growth of bivalves and algae were also foreseen.

Results

The project has been concluded positively, obtaining all the foreseen objectives. The main achievements of the project are listed below.

- The project can be considered a pilot experience: different structures (sacks, fences, gabions) with different biodegradability degrees have been experimented in the site in order to evaluate the best technique to be used at a larger scale for the restoration of the sandbanks. A plant nursery was realised for plants to be used to stabilize sandbanks. 2000 seeds of various halophytes species were collected. 10,000 seedlings of *Spartina maritima*, 5,000 of *Puccinellia palustris*, 4,000 of *Halimione portulacoides*, 5,000 of various halophyte species and selected seeds useful for sowing a surface of 800 m² were produced in the nursery. The techniques and the knowledge acquired during the project can be exported in other similar environmental situations of the Venice lagoon.
- The beneficiary was able to bring in the project the experience and co-operation from other lagoon areas in Europe (Wadden Sea, Germany).
- The beneficiary was very active in relations with local stakeholders, in particular fishermen, and administrations.
- Four local young workers have been involved in the project for the management of the plant nursery and will continue to manage the plant nursery for the cultivation of the halophyte species.
- The project has given a significant contribution to raising awareness of the existence of the Natura 2000 network in all competent administrations in Venice.

Environmental issues addressed:

Themes

Habitats - Coastal

Keywords

restoration measure, protected area, introduction of plant species, landscape protection, coastal area, wetland
Target EU Legislation

- Nature protection and Biodiversity
- Directive 92/43 - Conservation of natural habitats and of wild fauna and flora - Habitats Directive ...

Target Habitat types

- 1140 - Mudflats and sandflats not covered by seawater at low tide
- 1150 - Coastal lagoons
- 1320 - Spartina swards (Spartinion maritimae)
- 1410 - Mediterranean salt meadows (Juncetalia maritimi)
- 1420 - Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)
- 1510 - Mediterranean salt steppes (Limonietalia)

Natura 2000 sites

SCI IT3250031 Laguna superiore di Venezia

Beneficiaries:

Coordinator Magistrato alle Acque (VE)
Type of organisation National authority
Description The Magistrato alle Acque di Venezia is part of the Ministry of Public Works and it is responsible for the environmental safeguard of the Venice lagoon (Laws 366/62, 171/73 and 798/84). The Magistrato is also the competent administration for regulating navigation and setting speed limits within the lagoon.

Partners Comune di Venezia-IT Forschungsstelle Kuste-DE

Administrative data:

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Barene-Protezione e recupero con tecniche di ingegneria naturalistica
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