

DUNE CONSTRUCTION AND STRENGTHENING

OBJECTIVE

Contrasting dune erosion.

DESCRIPTION

Dune grass planting: plant dune grass on the face of the dune and the front to reduce wind speed across the surface and thereby trapping and anchoring shifting sands.

Dune thatching: covering the face of the dune with plant debris and branches to stabilise sand, increase sand accretion and protect dune vegetation.

Dune fencing: construction of fences along the seaward face of the dune to reduce wind speed on the surface and increase foredune deposition of transported sediment.

These methods are complementary and are usually combined.

EXPECTED RESULTS

Construction, re-building, strengthening and rehabilitation of dunes to enhance flood preparedness and restore the sand reservoir function of dunes.

RESULT INDICATORS

Hectare of dune/time [ha/t]

INVOLVED ACTORS

Specialists in ecosystem-based adaptation options, landowners, beach safety managers.

EXPECTED TIMELINE FOR ACTION

- Short term (1-4 years)

BEST PRACTICES

- Prov. West-Vlaanderen - Belgium
- Netherlands
- Apulia Region - Italy

CRITICALITIES

Construction of fences and thatching would limit access to the dunes and the beach and would disturb the public use of beaches. Moreover, this approach would alter the dune natural landscape. Land loss can also be an issue for the construction of artificial dunes and can be controversial, both because dunes can be a barrier to beach access and can reduce the part of the beach suitable for recreational activities. Often, dune construction and strengthening, as well as the creation of sand drift dikes, hinder the natural functioning of dunes.

SCOPE OF THE ACTION

- Adaptation

TYPE OF PROPOSED ACTIONS

- Green

SECTOR OF ACTION

- Biodiversity / Conservation of ecosystems
- Coastal management

CLIMATE IMPACTS

- Change or loss of biodiversity
- Floods
- Other

IMPLEMENTATION SCALE

- Association of municipalities
- Municipality
- Region / Country

SOURCE

<https://climate-adapt.eea.europa.eu/metadata/adaptation-options/dune-construction-and-strengthening>
<https://www.isprambiente.gov.it/files/dune/buone-pratiche-boccalaro.pdf>