



Smart control of the climate resilience in European coastal cities

SAND DUNES

WHY DO WE NEED TO PROTECT THEM?

THREATS

SEA LEVEL RISE

- Sea level rise is an ever-increasing threat to sand dunes, with many already becoming subject to erosion during high tides

FOOTFALL

- Increases in numbers of people visiting Irish beaches in recent years has resulted in an acceleration of erosion of dune systems along the coast
- Camping in sand dunes is also growing in popularity, as is the use of campfires
- Many prominent sand dunes on popular beaches now have trail marks evidencing their use

STORM SURGES

- The erosion power of winds, rain and high waves are all enhanced during stormy weather
- Climate models predict that the west coast of Ireland will see an increased frequency of storms over the coming years

FLOOD DEFENCE

- Sand dunes provide shelter and protection to coastal businesses, residences and habitats
- They do this by shielding these amenities and habitats from the worst effects of storm surges, and help to reduce the instances of erosion brought on by storms
- Sand dunes also play a vital role in protecting delicate machair habitats from flooding, preserving these areas and enabling them to continue to support pollinators and threatened breeding wader bird species, such as Dunlin, Lapwing and Redshank

IMPORTANT ECOSYSTEMS

- Sand dunes are important protected habitats which house a variety of native plant, mammal and insect species

VISUAL LANDSCAPE

- Sand dunes form an important aspect of the visual landscape of the North-West coast of Ireland and are enjoyed by visitors and locals year round

ACTIONS

AWARENESS CAMPAIGNS

- Sligo County Council has teamed up with other state bodies and the Climate Action Regional Office to develop a Sand Dune awareness campaign
- Campaign designed to remind beach goers of the benefits of sand dunes and encouraging them to not walk across them
- See an example of the awareness campaign posters below

NATURE BASED SOLUTIONS

- Sligo County Council is also investigating how sand dunes can be protected and reinforced using Nature Based Solution (NBS)
- Marram grass planting has been done in the Streedagh beach area to prevent habitat erosion
- SCC is currently working with our partners at ATU and our CCLL to identify other NBS to sand dune erosion

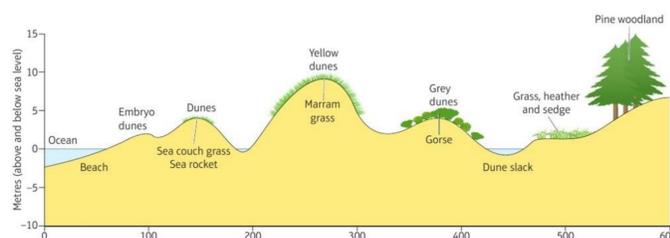


Figure 3.8: Sand dune cross-section showing features and succession

HOW CAN WE MONITOR THEM?

As part of the SCORE project, we are planning to monitor the erosion on local sand dunes to understand both the rate of erosion and the effectiveness of our interventions. We plan to monitor this using the following methods:

- Photo Image Analysis
- Footfall Counters
- Drone Mapping

We would also like to hear ideas from other CCLL's on how best to monitor the dune systems, so please reach out to ATU and SCC if you have any suggestions that could help.



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