



# Coastal Sand Dunes

## A Threatened Habitat

There are but few thriving sand dune systems left in Sweden and Europe. This means that many insects, fungi and plants, which are dependent on this habitat, face the threat of extinction. Overgrowth and exploitation are the main threats. The main villains include the Scots pine and Saltspray rose.

In bygone days, the shores had many uses; paths followed the shores, livestock grazed there and seaweed was gathered for the arable fields. With less wear and tear and an increased inflow of nutrients from the air and sea, in combination with excessive concern about entrainment, overgrowth has increased and the habitats of the shore species have been displaced.

### What can you do?

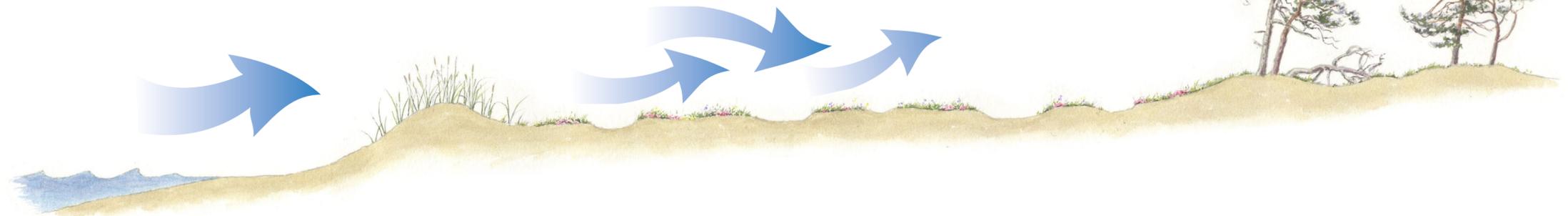
- Walking, playing, horseback riding, etc. will lead to moderate wear and tear and bare sand patches.
- Uproot pine saplings (where the landowner wishes to preserve the beach).
- Try to eradicate Saltspray rose. Dig it up or cover it with tarpaulin for two growing seasons (where the landowner wishes to preserve the beach).
- Avoid planting invasive species such as Saltspray rose or Japanese knotweed in your garden. They will rapidly spread into natural surroundings.

## The Natural Dynamics of Dune Habitats

Sand is cast up by the sea waves, dries out and is transported by the wind to obstructing dune grasses. The trapped sand then forms dunes.

On very windy days, the sand will be blown across the heath from the shore. Hollows are formed where the sand has been exposed due to destruction of the vegetation causing a blowout.

The sparse trees cause the wind speed to lessen. Grazing is beneficial to this type of woodland.



On the **seashore**, the sand is in constant movement and few plants survive.

The water's edge is home for small dermestid beetles and predators such as spiders and birds. Some decomposer insects, such as the Imperial rove beetle, are so tiny that they live between the sand grains.

The **shoreland heath** with bare sand patches and flowering plants is a more stabilised environment which is favoured by the trampling of humans and grazing livestock.

Several species of digger wasps live there. In daytime, butterflies and bees search for pollen and nectar among the flowers, At nighttime nocturnal beetles forage along the open sandy surfaces.

The shoreland heath is succeeded by **sparse coastal woodland** with wind-sheltered, sunny areas, open sand, ancient and dead trees. Sunlit ancient trees with coarse bark or bare wood play host to saproxylic insects and bees which build their nests in former insect burrows.



Sea rocket and Sea holly thrive in exposed areas on the shore. Sea holly grows above the highest waterline and is sensitive to competitive plants such as Saltspray rose.

The Hairy-legged mining bee builds its nesting burrow in a bare sand patch on the heath. The leaf-cutter bee is dependent on the pollen of Greater knapweed.

The fungi Daisy earth star and Stalked puffball *Tulostoma kotlabae* are two rarities. They are dependent on a sparse and thin vegetation cover.

Antlion larvae dig pits to trap prey in the sunny, wind-sheltered sand. The Jewel beetle *Buprestis octoguttata* lays its eggs in the warm wood.

