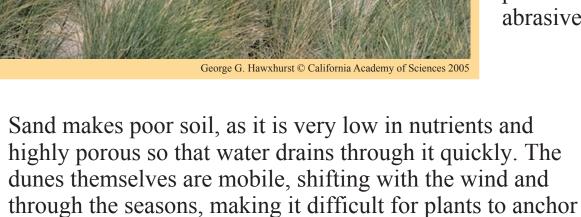
# Coastal Sand Dunes

#### What is a coastal sand dune?

Coastal dunes are not common in California as the relatively steep Pacific coast doesn't often allow the permanent accumulation of sand. However, there are areas with a more gradual slope where dunes can develop, and where there's a ready supply of sand. Dunes are found locally at Pt. Reyes, Pescadero, and near Monterey. One of the state's largest historical dune areas now lies beneath Golden Gate Park in San Francisco. This is a difficult habitat for plants. Near-constant wind carries toxic salt and abrasive sand inland and discourages tall growth.



themselves. The light color of the dunes makes them very

reflective, adding to light intensity and heat.



## What animals inhabit coastal sand dunes?



Animals are harder to see in the dune community. Often all one sees of them is the delicate tracery of tracks left during nocturnal foraging. Small rodents and insects feed small predators such as opossums, raccoons and gray



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The endangered western snowy plover, a sparrow-sized shorebird, nests in dune and high beach areas. Unfortunately the bird and its offspring are very sensitive and vulnerable to disturbance of any kind, whether it be a dog running

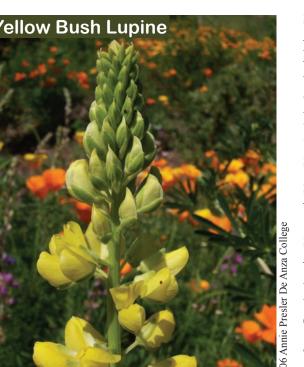


all-terrain vehicle or even birders. Areas the plover use are often cordoned off during nesting season to protect



### How are plants adapted to such a harsh environment?

As challenging a habitat as it is, its characteristic plants have adaptations permitting their survival. Many dune plants have flexible, whip-like roots that allow them to shift and adjust to the dunes' movement. Many have leaves protected by tiny white hairs that reflect heat and intense light. Most species either hug the ground or grow in low mounds, helping them to deflect the wind. And many plants are quite succulent, and can store water when it is available and counteract the



dehydrating effects of high salinity. In short, these plants make the best of a harsh habitat!

Dune plants include bush lupine, beach strawberry, seaside daisy, coyote brush, sand verbena and buckwheat. Backed by sculptural fore-dunes and the rolling surface of the Pacific, a coastal dune community in full bloom is a spectacular sight.





# Why should coastal sand dunes be protected?

Coastal sand dunes not only provide a home for numerous plants and animals, they protect our coastlines from damaging winds and storm surges. Sand dunes provide a natural barrier that helps to deflect flooding associated with hurricanes and tropical storms. Along with coastal wetland communities, plants in sand dune communities act as natural sponges to absorb the excess water and hold the sand in place. These natural sand dune barriers are often removed during development, leaving the coastline more vulnerable to storm surges and flooding.

Developers often build unnatural barriers to protect the beaches around buildings, but this does not allow for the natural movement and progression of sand dunes along the coast. The unintended result is that other areas along the coast become even more vulnerable to the destructive forces of wind and water. By protecting our sand dunes we protect vital habitat for birds, marine mammals and ourselves.



