



Dune Restoration & Biodiversity of the UCSB Shoreline



The Challenge: From Monopoly to Diversity

Invasive species often monopolize disturbed sites. This can be problematic because invasive species often form monocultures; that is, a single species dominates a large area and suppresses the growth of

other species. Monocultures reduce the occurrence of unique, native plant communities and the diversity of wildlife that rely on them for survival.

The Process: Steps Towards Diversity



Summer 2005
Thick Cover of Iceplant

Iceplant, a non-native, invasive plant from South Africa, provides limited resources for native wildlife.



Fall 2005
Solarization with Black Plastic

Black plastic kills iceplant without using herbicide, disturbing the soil, or releasing weed seeds.



Winter 2006
Dead Iceplant

After 2-4 months of solarization the iceplant is dead and can be removed or left in place as mulch.



Spring 2006
Natives Planted

Hundreds of small seedlings of more than 35 native species were planted on the site.



Summer 2006
Diversity

Native plants successfully grow in this challenging environment where wind and salt spray are common.

The Outcome: Restored Native Coastal Habitat

Look around! This restored habitat now supports more than 35 native plant species from four plant communities: salt marsh, coastal sage scrub, dune swale, and coastal dune.

Native plant species provide pollen, nectar, and seeds year round, which support insects, birds, small mammals, and reptiles. The varied structure of these different plants also provides more complex habitat (perches, roosts, cover, and open soil) than the flat iceplant. This diversity creates a stable food web, which supports some of the rare species pictured here.

UCSB's unique coastal location has provided opportunities for the Cheadle Center for Biodiversity and Ecological Restoration to protect and enhance these remnant habitats, enabling students, staff, and visitors to experience the natural diversity of coastal California.



Wandering Skipper
Panoquina errans
A species of concern in California, due to the destruction of coastal salt marsh habitat. The caterpillar feeds exclusively on native saltgrass.



Pygmy Blue Butterfly
Brephidium exilis
One of the smallest butterflies in the world (maximum 3/4 in. wingspan) utilizes pickleweed, a key plant of salt marsh habitat, as a larval food plant.



Dune Beetles
Coelus globose, *C. ciliate*
These two species of beetles may burrow beneath the sand in the upper beach and dunes. Both are in decline in areas of intense recreation.



Belding's Savannah Sparrow
Passerculus sandwichensis beldingi
This state endangered, non-migratory, subspecies resides in nearby Goleta Slough and visits Campus Lagoon in winter.

