

## Humboldt Coastal Resilience Project

In 2015, the State Coastal Conservancy awarded Friends of the Dunes \$249,000 for the first two years of the Dunes Climate Ready Study. Friends of the Dunes is the fiscal sponsor of the grant and the US Fish & Wildlife Service has taken the lead in this collaborative project involving multiple partners.

This 5-year study will improve understanding of sediment movement along the entire Eureka littoral cell, a 32-mile unit of coastline. The study will identify potential vulnerabilities to climate change and potential response to future sea level rise.

### Components of the Study

- Transect surveys that use GPS technology to measure elevation and topographic data are being collected, each winter and summer, over the entire Eureka littoral cell. The data is being analyzed to better understand long and short-term dune dynamics. Together, with the analysis of historic shoreline changes based on air photo records, this information will be used to predict the effects of sea level rise and analyze vulnerabilities.
- Creation and monitoring of two adaptation projects
  - This adaptation site will help determine the desirable planting composition that optimizes sand transport and facilitates landward and upward migration of an intact foredune (a desirable response to sea-level rise). The study compares European beachgrass dominated foredunes with foredunes that are restored and planted with different assemblages of native plants.
  - (2) A second adaptation project uses a combination of native plants and driftwood to promote and monitor natural recovery of a foredune following an over-wash event.
- Native dune grass propagation site - A native dune grass propagation site has been established on the North Spit to analyze how native grass plantings affect sand movement from the beach, and to assist in future dune restoration projects along the North Spit.