



# Dunes Climate Ready Grant Update

May 2016-July 2016

## DUNES CLIMATE READY GRANT QUARTERLY UPDATE

The Dunes Climate Ready Grant (Coastal Vulnerability and Adaptation Study) is funded by the State Coastal Conservancy's Climate Ready Program. It is designed to further our understanding of how climate change will impact Humboldt's coastal dunes and test the effectiveness of different adaptation strategies. As part of the education and outreach component of the grant, quarterly email updates are sent to email subscribers keeping them up to date on the progress of the grant.

### Fourth Quarterly Update May 2016-July 2016



Summer Survey Crew

#### Summer Field Surveys

Summer monitoring was kicked off with a scheduling meeting in May which was well attended by returning partners as well as past and new volunteers. The summer schedule was filled from July 25 through mid September. The transects between Little River and the USFWS Ma-le'I Dunes Unit are nearly complete with one week devoted to getting low beach elevations at Lanphere and Ma-le'I during minus tides.

The survey is proceeding north to south for efficiency, consistency and to reduce the potential for impacts to Western Snowy Plovers. HSU professor Mark Colwell and student Elizabeth Feucht, who track plover nesting activity in the study area, are providing updates through the end of nesting season, allowing us to avoid negative impacts.

#### Lanphere Adaptation Site

The Lanphere Adaptation Site was surveyed with kite mapping by USFWS staff in July. Video footage was sent to UVic MS student Alana Rader for processing. Alana has completed the processing of footage from the April flight and will carry out a third mapping in August.



Surveying during a minus tide at Lanphere

### **Eel River Adaptation Site**

Monitoring of planting success was carried out by Alex Blessing of the Wildlands Conservancy and Andrea Pickart in May, approximately 10 weeks after planting. Of the 1100 culms (stems and associated leaves) of native dune grass (*Elymus*) that was planted, 50% were buried. Of those that had at least some portion unburied, survival was 52% at 10 weeks. This represents an overall survival rate of 25%. This rate is quite low based on previous plantings of *Elymus* on the North Spit of Humboldt Bay. A supplemental planting will be carried out in winter 2016-17. The large amount of burial was due to a large observed deposit of sand on the beach following the El Niño scarping. Adaptive measures being considered for the winter planting include trimming less of the culms, dispersion of driftwood throughout the site and below the plantings and a planting density of two culms per hole to compensate for mortality.

### **Friends of the Dunes Adaption Site**

Monitoring of the planting success at the dune grass nursery site at Friends of the Dunes (FOD) was completed by FOD and USFWS staff. Only a few plants were buried at this site and of the approximately 1000 culms planted, overall survival at 10 weeks was 70%. Possible causes for the differences in success include: 1) Lower wind speeds and less deposition at the FOD site 2) More favorable moisture/nutrient conditions at the FOD site due to some previous colonization by other natives (although this could also have the opposite effect due to competition and 3) Different substrates (the Eel River site has noticeably larger grain size and different mineral constituents). Monitoring will be repeated at the site at the end of the summer.

### **El Niño Erosion**

Measurements of scarp height were carried out along most of the study area between March and June. The sampling will be repeated at the end of summer to determine the extent to which ramping has occurred and scarps have healed.

### **Outreach**

A Dunes Climate Ready Walk was held at the Wildlands Conservancy's Eel River Estuary Preserve to look at the adaptation site and to discuss how the Conservancy is developing a restoration project that restores natural processes while taking into consideration the needs of neighboring agricultural property.

### **NEXT OUTREACH PROGRAM:**

#### **Dune Systems and Sea Level Rise**

Wednesday, August 31, 7:30-8:30 p.m.  
Humboldt Coastal Nature Center  
220 Stamps Lane, Manila



*Alex Blessing discusses the Eel River Estuary Preserve Adaptation Site.*

Dr. Patrick Hesp, Strategic Professor of Coastal Studies at Flinders University, Australia, will give a presentation on the evolution of barrier dune systems such as Humboldt Bay, and will describe the different ways in which foredunes can migrate inland during sea-level rise. An internationally renowned expert on dune geomorphology, Dr. Hesp will present examples from of dune systems around the world.



*Dune Translation Occurring at  
Prince Edward Island Canada*

***For additional background information visit the  
following websites:***

[Humboldt Bay National Wildlife Refuge](#)  
[University of Victoria Coastal Erosion and Dune  
Dynamics Lab](#)  
[State Coastal Conservancy](#)  
[Friends of the Dunes](#)



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