

Restoration Work Phase Completion Report to State Coastal Conservancy

March 7, 2005

Summary

This report summarizes activities and work performed on the Año Nuevo Island Habitat Restoration project during the "Restoration Work Phase" from November 2004 through January 2005. This is the second year of habitat restoration in the burrowing seabird colony. The following objectives were met:

- 1) Planting and erosion control of the remaining breeding habitat of Rhinoceros and Cassin's Auklets (approximately 0.97 acres total)
- 2) Installation of temporary irrigation
- 3) Stabilization of the entire boardwalk system on the island



Katie Fehring (Oikonos) and volunteers Phil Grieve, Katie Russell, and Jennifer Pironis roll erosion control material made of biodegradable coconut fiber over a layer of plants, seeds, and straw.

Restoration methods developed in 2003 and 2004:

- Planted selected mature native plants with density 2 ft on center: Salt grass *Distichlis spicata*, American dune grass *Leymus mollis*
- Spread site-specific native seed between mature plants: Beach bur *Ambrosia chamissonis*, Lizardtail *Eriophyllum staechadifolium*
- Distributed straw over seed and between mature plants, to hold moisture, provide temporary structure, and provide an alternative source of nesting material for Western Gulls
- Wrapped erosion control matting on top of the plant and seed layers, stapled down securely
- Experimented with designs to encourage new burrowing (recruitment)
- Opened entrances to burrows occupied by auklets in previous years

Project Leaders

Oikonos - Ecosystem Knowledge,
Michelle Hester, Katie Fehring

PRBO Conservation Science,
David Gardner, Julie Thayer

Go Native, Dave Sands,
Chuck Kozak, Shawn Dardenelle

Completed Tasks for Restoration Work Phase

Task #1 - Project Management

- Refined island habitat restoration designs developed in 2003 to protect the breeding colony of Rhinoceros and Cassin's Auklet
- Coordinated interagency collaborations and permitting

Task #2 - Installation Work

- Supervisors coordinated boat transportation and island field work (over 45 persons)
- The restoration team planted 6,838 native plants, seeded with site-specific native seed, and installed erosion control material over all of the targeted seabird burrow-nesting habitat planned for this project
- Boardwalks were repaired and stabilized
- Water delivery from cistern adapted using a portable external pump
- Irrigation system adapted using portable soaker hoses to target dry areas and avoid affecting ground-nesting gulls.



Katie Fehring (Oikonos), Martha Brown (Volunteer), and Michelle Hester (Oikonos), holding boat in the surf zone while plants are individually unloaded to the island.

Click on photo to view 3 minute film showing methods – requires the file planting.mov to be in same folder and movie viewer preferences set properly.

Task #3 - Installation Equipment and Supplies

- Plants, materials, and supplies were transported to the island via small inflatable boats (Coast Guard helicopter support not used in 2004)
- Items included
 - 27 rolls (2m x 50m) of erosion control material
 - 6,838 plants (two species)
 - 25 rice straw bales
 - over 3,000 staples
 - 10 flour sacks of native seed
- Boat and motor maintenance and upkeep conducted



Leymus mollis, American dune grass, growing through the coconut fiber material, Jan. 2005.

Completed Tasks for Restoration Work Phase

Task #4 – Results and Reporting

- Data collected and organized to document restoration study plots and habitat changes
- Organized aerial survey and mapping data
- Presented results at “Island Restoration” symposia – Pacific Seabird Group, Portland, OR

Task #5 - Education

- Initiated film about island restoration for science curricula in collaboration with Half Moon Bay High School.

Future Work

The Monitoring Studies Phase will continue through November 2005. Activities will include quantifying vegetation changes, erosion rates, auklet and gull nesting densities, and other responses to habitat changes.

Over 35 volunteers came together to work on the restoration including individuals from :

Año Nuevo State Reserve Staff
Año Nuevo Docents
IMA Industrial
Moss Landing Marine Laboratories
University of California, Santa Cruz
Go Native
PRBO Conservation Science
Oikonos

