Invasive Iceplant Removal Project

Applicant: California Department of Fish and Wildlife

Agent: The Bay Foundation

Location: Ballona Wetlands Ecological Reserve, Area B South, Playa Del Rey, Los Angeles County

What is iceplant?

- Highway iceplant (*Carpobrotus edulis*) is a ground-hugging, creeping succulent perennial that roots at the nodes and often forms deep mats covering large areas.
- Shallow, fibrous roots are produced at every node that is in contact with the soil (Cal-IPC)
- Native to South Africa – Invasive in California (Esler et al. 1995, USDA 2004, D'Antonio et al. 1993, Cal-IPC)
- Highly tolerant of varying soil conditions (Cal-IPC)
- Can form nearly impenetrable mats, lower/alter soil pH, alter root morphology of native species, interfere with water availability for native species, and outcompete natives (Cal-IPC, D'Antonio et al. 1991)
- Greatest negative impact on native vegetation in times of drought (D'Antonio and Mahall 1991)

Importance of targeting invasive iceplant

California Invasive Plant Council “High” ranking

IMPACTS	INVASIVENESS	DISTRIBUTION
Severe impact on abiotic ecosystem processes	**Moderate** role of anthropogenic and natural disturbance in establishment	**Widespread** ecological amplitude/ range
Severe impact on plant community	Local rate of spread **increases rapidly** with no management	**Moderate** distribution
Severe/high impact on genetic integrity	**High** innate reproductive potential	
	High potential for human-caused dispersal	

Why manage invasive iceplant?

- Largest opportunity for coastal wetland restoration in Los Angeles
- Supports native biodiversity
- Promotion of good land stewardship to facilitate private and public interest in land preservation
- Iceplant will continue to spread and outcompete native vegetation
- Create habitat for native flora and fauna
- Community engagement at a site with no public access
- Restoration creates potential habitat for the Belding's Savannah Sparrow
- Preservation of cultural resources
- Important interim stewardship project that would support additional future restoration efforts

Solarization of Iceplant Monocultures

- Proven effective method from prior projects
- Minimizes soil disturbance
- Eliminates the use of herbicides
- Creates mulch for native plants

Channel Islands Restoration Project (Carpinteria Creek Mouth Project)

Left: staff suspends sandbags from stakes and lines to hold the plastic sheeting in place on a steep slope. Middle and right: finished sections.

Channel Islands Restoration Project (Before/After)

Project site (looking south) after removal of plastic sheeting and initial installation of native plants.

Channel Islands Restoration Carpinteria Project (Before/After)

Project site (looking north) after removal of plastic sheeting and initial installation of native plants.

Devereux Slough Project (Ventura, CA)

Project site (looking south) after removal of plastic sheeting and initial installation of native plants.

Other Successful Solarization Projects

- http://www.schabitatrestoration.org/?page_id=563
- http://www.nps.gov/chis/learn/nature/restoring-anacapa-island-native-plants.htm
- http://coaloilpoint.ucnrs.org/IBAProjectPhotos.html
- http://coaloilpoint.ucnrs.org/images/NorthEastCorner/index.html
- http://www.santabarbaraaudubon.org/SBAudubon/sbasrest.html
- http://scwrp.org/grants/cwrgp/
- http://scwrp.org/projects/ucsb-campus-lagoon-salt-marsh-restoration/
- http://scwrp.org/projects/ormond-beach-native-plant-restoration/
- http://ccber.ucsb.edu/ecosystem/management-areas-campus-lagoon/lagoon-island-campus-point

Iceplant Invasion over time at Ballona

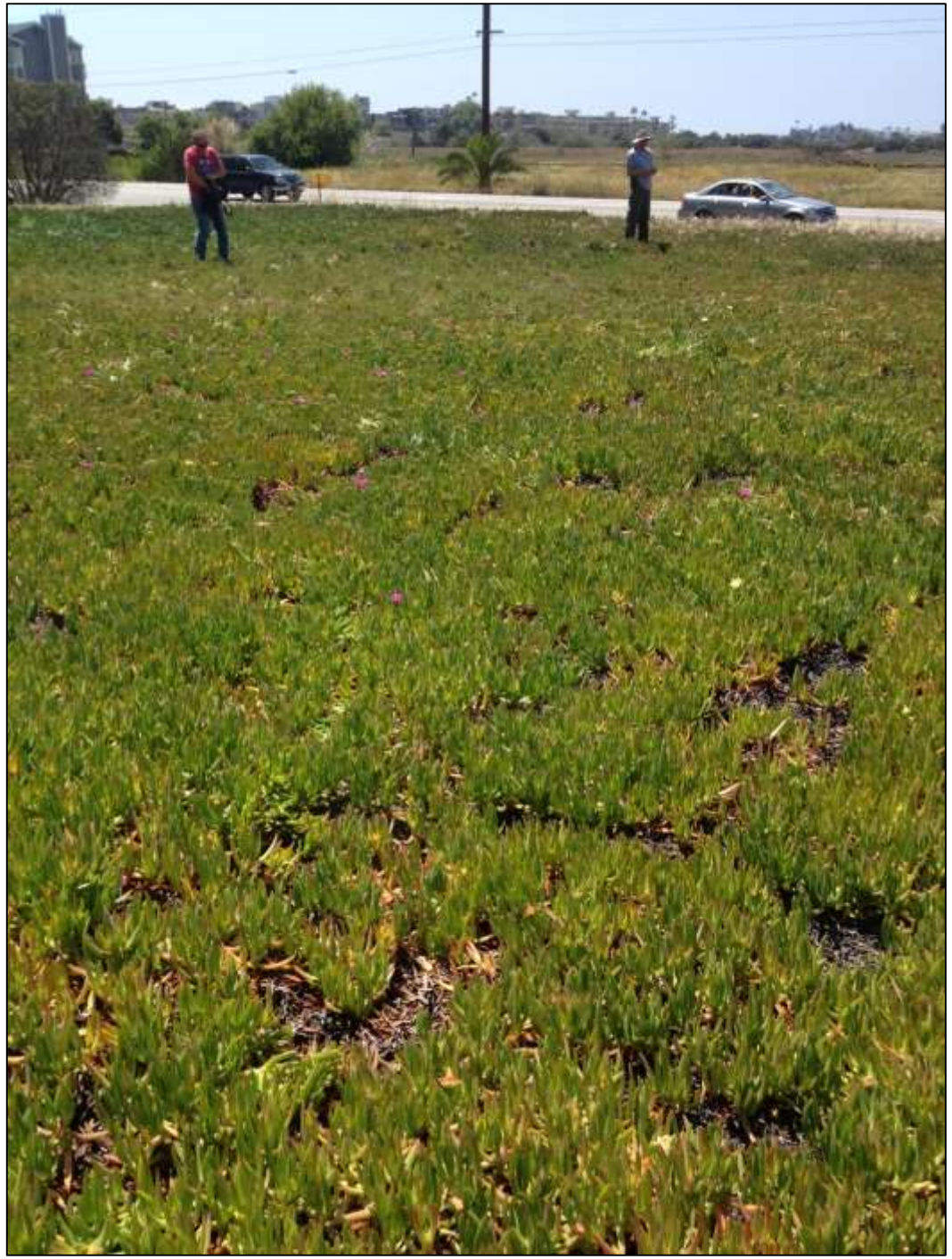
Ballona site-wide:

- 2007 = 22.96 acres
- 2013 = 28.20 acres + 23% increase in six years

Project Area & Adjacent:

- 2007 = 11.41 acres
- 2013 = 13.57 acres + 19% increase in six years


Vegetation Polygons
Iceplant monoculture
Iceplant / non-native co-dominant assemblage
Iceplant / native co-dominant assemblage



Project Area: Invasive Iceplant Monocultures

Native Salt Marsh Vegetation

Invasive Iceplant References

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