

San Francisco Estuary Invasive Spartina Project



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Preserving native wetlands





Why is Invasive Spartina a Problem ?

Degrades endangered species habitat over the long-term Dominates mudflats and changes hydrology Potentially endangers native Pacific cordgrass Reduces flood control capacity Creates mosquito breeding areas Causes failed tidal marsh restoration





Invasive Spartina Project Eradication Program

Goal: Eradicate non-native Spartina from the San Francisco Estuary through a regionally coordinated effort

Regional Approach: All infested areas Estuary-wide require simultaneous non-native Spartina control

Coordinate regional partners: Enable treatment work in a variety of settings through grants, permit and technical assistance, volunteers, whatever is needed

Scope: Treatment on over 24, 000 acres of marshland Estuary-wide. 188 sub-sites as of 2012

Cost: \$28 million to date in state and federal funding



Treatment Methods: Ground and Water-based







Airboat







Amphibious Vehicles







Old Alameda Creek 2006/

Old Alameda Creek 2009

Bay-Wide Net non-native Spartina Acres 2004-2011



Restoration Program Goals

Rapidly establish habitat features to benefit California clapper rail at strategic locations where recent eradication of non-native Spartina has caused decreases in local populations.

Reintroduce Spartina foliosa where locally extirpated or radically reduced by spread of invasive Spartina.





Spartina foliosa propagation beds at the Watershed Nursery reduces marsh impacts from large-scale direct transplants

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Single Species Management Doesn't Work

Hybrid Spartina impacts marsh structure and biodiversity

Short-term impacts versus long-term species and habitat goals

Coordinated approach needs to be implemented bay-wide

Partial treatment will not succeed in the long-term



Clapper Rails and Hybrid Spartina

- Reduced macroinvertebrates
- Displaced native S. foliosa
- Dominated native marshes
- Filled in channels
- Created new tidal marsh
- Provided excellent cover
- → Clapper rail populations expanded and grew





Three Regions Combined



Deploy Artificial Floating Islands

Construct High Tide Refuge Islands

Implement Rapid Intensive Revegetation

Coordinate or assist predator control actions

Continue and complete Bay wide eradication of invasive Spartina



San Francisco Estuary Invasive Spartina Project California Clapper Rail Habitat Enhancemen

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Outlook Going Forward

2012 Biological Opinion: down to 9 no sites Implementing restoration to get to full treatment

Continued treatment and restoration efforts Fundraising with multiple partners as state budget declines Integration of efforts with CA Clapper rail recovery planning Close coordination with agency partners









March 2011

Agreement No. 06-374-559-0 State Water Resources Control Board

Prepared by: California Invasive Plant Council











Process Recommendations

Establish MOU early on to identify main impacts and goals

Secure commitment by partners, permitting agencies, executives

Involve regional experts and use current science in decision-making

Establish a process for addressing endangered species issues

Collaborative planning is critical to develop innovative restoration approaches

Thank you!

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