



CALFED Progress Report
California Sea Grant College Program

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 TypeQuestionnaire_2B Interim Report

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Project Information

ProjectNo_2C R/SF-17 StartDate_3a March 2007 EndDate_3b June 2009
 ProjectTitle_4 The role of exotics as ecosystem engineers affecting estuarine food webs in Suisun Marsh

CALFed Fellow contact information

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Research Mentor (for additional please see #8)

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Community Mentor (for additional please see #9)

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Additional Research Mentors and Community Mentors

Additional Research Mentors_8

Additional Community Mentors_9

PROJECT MODIFICATIONS: Please explain any substantial modifications in research plans, including new directions pursued. Describe major problems encountered, especially problems with experimental protocols and how they were resolved. Describe any ancillary research topics developed.

Modifications_12

The major project modification has been to reduce the scope of the project by eliminating two of the proposed invasive plants and focusing on Lepidium only. This has enabled us to do a more in-depth evaluation of the impacts of Lepidium on the natural marsh. In addition, we have really increased our collaboration with Solano Land Trust to pair our results with their ongoing management project. The eradication monitoring and planning has greatly increased in scope and duration.

BENEFITS AND APPLICATIONS: Suggest the relevance of these new findings to management. Describe any accomplishment, that is significant effects your project has had on resource management or user group behavior. CALFED is looking for "management cue" (see <http://science.calwater.ca.gov/pdf/soemgmtcues.pdf>).

BenefitsApplic_13

Once impacts of Lepidium is understood, it will be possible 1) to more directly relate engineering to impacts on other species, 2) to predict the response of invasives to future conditions including climate change, and 3) to develop effective management and eradication strategies. In collaboration with Solano Land Trust, we are working to develop an integrated approach to eradicating Lepidium across habitat zones by evaluating the effectiveness of eradication design by patch size, by species, and by eradication technique. This will produce transferable and measurable metrics that can be incorporated on a regional scale into the many Lepidium eradication programs. In conjunction with SF Bay National Estuarine Research Reserve, we organized a two-day symposium to gather local researchers, managers, scientists, and land-owners in order to share results and ongoing research and management.

PUBLICATIONS: List any publications, presentations, or posters that have resulted from this funded research. Give as many details as possible, including status of paper (e.g., in review; in press), journal name, conference location and date of presentation. Please note (as outlined in the conditions of the award) that each fellow is required to submit an abstract for an oral or poster presentation at each State of the Estuary conference and CALFED Science Conference during the duration of the fellowship.

Publications 14

*Invited speaker. 2008. Bay Area Lepidium Science and Management Series I. Whitcraft, C. Title: “The Impacts of Perennial Pepperweed Invasion on Sediment Community”

*From the Bench. Whitcraft, C. Title: “The Impacts of Perennial Pepperweed Invasion in Wetlands Along an Inundation Gradient”

*Invited speaker. 2008. Bay Area Lepidium Science and Management Series II. Whitcraft, C., Wallace, B., Grewell, B. Title: “Review of Lepidium Ecology”

*CALFED Annual Meeting. 2008. Whitcraft, C.R., D. Talley, B.Wallace, and B. Grewell. Title: “The Adaptive Management of Perennial Pepperweed Invasion Along an Inundation Gradient”

* Benthic Ecology Meeting. 2009. Whitcraft, C, Talley, D., and Wallace B. Title: “The Impacts of Perennial Pepperweed Invasion in Wetlands Along an Inundation Gradient”. Session Chair

*CNSM Faculty Research Symposium. 2009, Whitcraft, C and Talley, D Title: “The Impacts of Perennial Pepperweed Invasion in Wetlands Along an Inundation Gradient”

*State of the Estuary. 2009. Authors: Whitcraft, C.R., D. Talley, B.Wallace, B. Grewell, and M. Psaros. Poster title: “Control and Management of Perennial Pepperweed Invasion: An Obtainable Goal?”

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COOPERATING ORGANIZATIONS: List those agencies and/or persons who provided financial, technical or other assistance to your project since inception. Describe the nature of their collaboration.

CoopOrganiz_15

Brenda Grewell (USDA, UCDavis) - time, expertise, Melanie Deninger (CA Coastal Conservancy) - money for the symposium, Solano Land Trust - equipment, personnel, California State University Long Beach (SCAC funds), SeaGrant Bridge funding - small supply money.

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AWARDS: List any special awards or honors that you, or mentor or members of the research team, have received during the duration of this project.

Awards_16

none.

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KEYWORDS: List keywords that will be useful in indexing your project.

Keywords_17

invasive species, Lepidium latifolium, pepperweed, insect, brackish marsh, management, eradication.

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