



CALFed Progress Questionnaire
California Sea Grant College Program

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ProjectYear_2A 1st Year ProjectNo_2C R/SF-11
TypeQuestionnaire_2B Interim Questionnaire

Preparer Information

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Project Information

ProjectNo_2C R/SF-11 StartDate_3a 9/01/05 EndDate_3b 8/31/08
ProjectTitle_4 Effects of habitat heterogeneity on the growth, survival and movement of juvenile steelhead (Oncorhynchus mykiss) with implications for management

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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CMInstitution_7E East Bay Municipal Utilities District

Summary of progress in meeting each of these goals and objectives

ProgressSummary_11

I am currently examining benthic and drift macro-invertebrate samples collected from two side channels on the Mokelumne River created as habitat enhancements. I am examining how these newly created habitats are colonized by fresh water macro-invertebrates (a preferred food of juvenile steelhead) and how the macro-invertebrate community develops through time (succession). This information is necessary for our understanding of the ecology of these systems and to help direct restoration and habitat enhancement efforts in the future. By comparing macro-invertebrate community structure (i.e. diversity and abundance of taxa) to concurrent diet samples collected from within the side channels I can relate the colonization and succession of these habitats to benefits to steelhead. This in turn relates habitat management actions to the management of sensitive species such as steelhead. I hope to expand this aspect of the research. I am preparing results of this study to present at the 4th Biennial CALFED Science Conference 2006 Making Sense of Complexity: Science for a Changing Environment.

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

I am interested in examining the role of habitat heterogeneity on community structure of aquatic macro-invertebrates and fish. I am then interested in examining how the resulting community structuring from habitat features such as instream wood and side channels affect individual growth and population level dynamics of sensitive species such as *Oncorhynchus mykiss*. Results could help direct restoration and other management actions to benefit such sensitive species.

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

East Bay Municipal Utilities District EBMUD
Dr. Joseph Merz is my community advisor on my project. EBMUD has been very helpful in letting me come out for their field work to help familiarize myself with the system. They have also been very supportive in letting me view data to help direct my research. I am performing lab analysis on field samples that EBMUD collected. This benefits EBMUD by getting the work done and statistically analyzed and provides me with something to present at the CALFED symposium, as well as act as a pilot study to direct my project. Dr Merz has been incredibly helpful through this whole process.

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

I received both
the Friends of Long Marine Lab Student Research and Education Award
and the
STEPS Institute Awards for Graduate and Undergraduate Environmental Research

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

Keywords_17

juvenile steelhead, rainbow trout, oncorhynchys mykiss, growth, movement, survival, habitat features, habitat heterogeneity, community, macro-invertebrates, PIT tag, instream wood, side channel,

