

Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

Fall 2002

This was the first quarter of this CALFED project. This project builds on research performed under CALFED ERP project #99-NO6 titled “Linked Hydrogeomorphic-ecosystem Models to Support Adaptive Management: Cosumnes-Mokelumne Paired Basin Project (ERP Program)” as well as independent research funded in part by EBMUD and UC Davis. Using that previous funding demonstration projects were built in August of 2001 and 2002 using the Spawning Habitat Integrated Design Approach (SHIRA). During the last quarter, a SHIRA post-project assessment of the 2002 project was performed and long-term monitoring of the 2001 was conducted. Monitoring included several physical and biological variables such that we can understand the causal mechanism of what is occurring at a site. Analysis of monitoring data was performed and presented at the Fall Meeting of the American Geophysical Union in the form of an oral presentation by Greg Pasternack and a poster by graduate student Joe Wheaton. One fact reported in these presentations was that a total of 88 redds were located in the 2002 project area, and of those, 95% occurred in locations that SHIRA predicted to be good to best quality habitat. This is a very encouraging early result.

We led a field trip with 35 participants on December 14 to visit our study area, including some of our nation’s top geomorphologists as well as many state agency staff. We gave all participants documentation about SHIRA and shared our demonstration project results openly with the group. This promoted a very useful exchange of ideas.

A manuscript providing full documentation of SHIRA was prepared and is now going through final editing before submission to a peer-reviewed scholarly journal. A second paper documenting the 2001 site was also prepared as a case study illustrating SHIRA. Also, a fully featured SHIRA web site is available that describes the methodology, including movies of computer simulations, field data, adaptive management strategies, and procedural flow charts. The URL is http://lawr.ucdavis.edu/faculty/gpast/shira/shira_contents.htm. This will serve as a one-stop source of information for anyone interested in making their rehabilitation projects objectively based.

Through an on-going adaptive management process, SHIRA is now in its 5th generation.