

2.4 Project Sources of Sediment

This study is designed to provide information regarding the extent to which Sacramento Municipal Utility District's (SMUD) Upper American River Project (UARP) and Pacific Gas and Electric Company's Chili Bar Project features significantly contribute to the sediment load (e.g., elevated levels over that of background) entering the river. Under this study, all UARP and Chili Bar Project related facilities will be inspected to identify any obvious sources of significant amounts of sediment to the river. Where significant UARP and/or Chili Bar Project sources are identified, the amount of sediment entering the river will be quantified and/or appropriate control measures will be identified. (It may be more applicable to fix any observed problems areas immediately rather than conduct extensive studies to quantify sediment loading, and then fix the problem area.) In addition, as part of this study, readily available information regarding any non-projects sources of sediment (areas outside the FERC Project Boundaries where repeated slides or slope failures have occurred) will be presented.

2.4.1 Pertinent Issue Questions

This Project Sources of Sediment Study Plan addresses the following Aquatic/Water Issue Questions:

5. What effects do the Project features and operations have on fluvial geomorphology and stream habitat?
42. How do Project-related features affect sediment budgets?

Note that the Channel Morphology Study Plan addresses sediment once it enters the river and reservoirs (within the flood-prone area), and the Water Quality Study addresses turbidity. Also note that as part of the Reservoir Fish Habitat Study, any obvious areas of erosion along reservoir banks will be identified.

2.4.2 Background

This study examines whether UARP and/or Chili Bar features (other than project dams) significantly contribute to the sediment load entering the river. UARP and Chili Bar Project features include project roads, spoil areas, recreation areas and other hillslope project features where erosion or slope failure could lead to significant amounts of sediment entering the river. Under this study, all UARP and Chili Bar Project related facilities will be inspected to identify any obvious sources of significant amounts of sediment to the river. Where significant sources are identified, the amount of sediment entering the river will be quantified and/or appropriate resource measures will be identified. (It may be more applicable to fix any observed problems areas immediately rather than conduct extensive studies to quantify sediment loading, and then fix the problem area.)

2.4.3 Study Objectives

The objective of this study is to:

- determine if UARP and/or Chili Bar project features contribute significant amounts of sediment to streams
- if so, identify where and what measures are needed to reduce this sediment loading

2.4.4 Study Area

The study area will include all UARP and Chili Bar Project hill slope features, including project roads and UARP's spoil areas described in pages A-1 through A-53 of SMUD's Initial Information Package). As a first step in the study, a list of project roads will be developed in consultation with Rich Platt (USFS) for approval by the Aquatic TWG. The list will include roads that were constructed by SMUD and/or PG&E for operation of the UARP and/or Chili Bar Project and are currently maintained by SMUD or PG&E. Roads or facilities maintained by another party (such as a County road) and land management by another party (such as land owned and maintained by Sierra Pacific Industries) may/may not be included in the study area, however, if SMUD and/or PG&E are readily aware of any reoccurring sources of sediment in these areas, it will be noted.

2.4.5 Information Needed From Other Relicensing Studies

Information may be needed from the Channel Morphology Study Plan. Development of the list of roads to be included will be coordinated with appropriate TWGs (e.g., Terrestrial and Cultural) for consistency among studies. The location of reservoir banks that show obvious signs of erosion will be needed from the Reservoir Fish Habitat Study.

2.4.6 Study Methods And Schedule

The study methods will include

- Develop a list of the roads to be included in the study in consultation with Rich Platt (USFS) for approval by the Aquatic TWG.
- Review any pertinent agreements (such as road maintenance, recreation facility or spoil pile agreements) currently in effect for roads on the Aquatic TWG-approved list and other facilities within the study area and determine compliance with the terms and conditions of the agreements
- Identify standards applicable to project roads on the Aquatic TWG-approved list
- Conduct an inspection in the field of all roads to be sure each is maintained to applicable standards, and of all project hill slope facilities
- Document (including photographing, mapping, measuring and locating on a GIS or topographic map) any areas where applicable standards are not met, where erosion/sedimentation appears to be a significant problem (i.e., where erosion is obvious), or areas where the Channel Morphology Study has identified project reaches with significant sediment impacts.
- Interview SMUD and PG&E Operations staff to identify any recurring sources of sediment not associated with the projects.

The list of roads to be included in the study will be developed for consideration by the Aquatic TWG immediately upon approval of this study plan. Applicable agreements and maintenance levels will be identified and reviewed in early summer 2002. All UARP and Chili Bar project features will be inspected in the field in summer 2002. Interested Aquatic TWG and Plenary Group participants will be invited to participate in inspections. It is anticipated that a presentation will be made to the Aquatics TWG and Plenary Group in late 2002, and if any additional data gathering or analysis is identified to address problem areas, this study plan will be amended and the work will occur in 2003.

2.4.7 Analysis

Study analysis will include:

- Determining if the identified persistent erosion and landslides related to UARP and/or Chili Bar Project facilities could reasonably contribute significant amounts of sediment to channels in the projects area
- Recommending corrective measures, where needed.
- Information from this study may be useful in the Channel Morphology Study to identify project-related sources of sediment and to the Water Quality Study when assessing water quality effects. If any project sources of sediment are identified, as part of the Water Quality Plan, these areas will be monitored where they drain into the river/reservoir during runoff events to document the extent of sediment loading, or the area will be stabilized in compliance with all applicable permits/agreements/etc after discussion with the Plenary Group.

2.4.8 Study Output

The study output will be a written report that includes the issues addressed, objectives, study area including sampling locations, methods, analysis, results, discussion and conclusions. The report will be prepared in a format so that it can easily be incorporated into SMUD's draft environmental assessment that will be submitted to FERC with SMUD's application for a new license.

2.4.9 Preliminary Estimated Study Cost

A preliminary cost estimate for this study will be developed after approval by the Plenary Group.

2.4.10 Plenary Group Endorsement

The Aquatics TWG approved this plan on January 25 and February 28, 2002. The participants at the meetings who said they could “live with” this study plan were CDFG, USFS, PCWA, EDCWA, BLM, CSPA, SWRCB and SMUD. None of the participants at the meetings said they could not “live with” this study plan except for the PG&E participant who said PG&E would defer at this time since the plan did not include the Chili Bar Project and downstream. On April 3, the Plenary Group directed the TWG to include Chili Bar in the Study plan. This was done, and the Aquatic TWG approved this plan on April 25, 2002. The participants at the meeting who said they could “live with” this study plan were PCWA, El Dorado County, BLM, CDFG, USFS, CSPA, USFWS, SMUD, SWRCB and PG&E. None of the participants at the meeting said they could not “live with” this study plan. The Plenary Group approved the plan on June 5, 2002. The participants at the meeting who said they could “live with” this study plan were PCWA, El Dorado County, BLM, BOR, USFS, CSPA, SMUD, FOR, PG&E. None of the participants at the meeting said they could not “live with” this study plan.

2.4.11 Literature Cited

SMUD (Sacramento Municipal Utility District). 2001. Initial Information Package for Relicensing of the Upper American River Project (FERC Project No. 2101). Sacramento, CA.

AQUATICS TWG NOTE:

1. *This study area will be revisited once SMUD and the USFS reach agreement regarding responsibility for and potential Project actions in “Defense and Threat” zones as defined in the Forest Service Plan Amendment EIS and Record of Decision*