

8.8 **Whitewater Boating Feasibility Study** (Note: Above Chili Bar)

8.8.1 Pertinent Issue Questions

The Whitewater Boating Study addresses the following recreational resource questions:

- 1a. Is it possible to have consistent and regular releases that support boating in the reach between Slab Creek Dam and Chili Bar Reservoir?
2. What are the optimal and minimum boating flows between Slab Creek Dam and Chili Bar, for all crafts, and all classes of boating?
- 3a. What are the effects of potential boating flows on water levels of Project reservoirs?
6. What maximum and minimum flow regimes are required for whitewater boating in stream reaches affected by the Project, including upper Rubicon River?
16. Can we provide whitewater boating flow phone, website, flow modeling for 1-week intervals, and past releases?
19. Can there be a flow management hydrology model (unimpaired hydrograph) built with a whitewater filter that estimates flows assuming UARP/Chili Bar presence and absence?
68. What is the need for, and feasibility of, whitewater boating in the reaches below Project dams?

8.8.2 Background

The Whitewater Boating Feasibility Study will be designed to identify and evaluate opportunities for whitewater boating in Project reaches (above Chili Bar) assess how the Project affects these opportunities and recommend any additional studies needed (e.g., Single Flow Feasibility Study or Controlled Flow Study). A separate study plan, *Recreational Flow Study (Below Chili Bar Dam)*, addresses the issue questions regarding whitewater boating below Chili Bar Dam.

8.8.3 Study Objectives

The objectives of this study include:

- Identify and describe reaches where there are existing or potential whitewater opportunities
- Quantify how the Project affects these opportunities (i.e., flows, boatable days, season of use, access)
- Characterize whitewater opportunities affected by Project operations based on physical characteristics, existing information and interviews (e.g., gradient, length, access, channel characteristics, flows, reservoir storage and diversion capacity)
- Determine current and future demand for whitewater boating on Project reaches
- Develop a range of possible flows to provide other TWG's before conducting additional studies
- Describe and assess the adequacy and availability of existing flow information
- Recommend additional studies needed for whitewater resources (e.g., Single Flow Feasibility Study or Controlled Flow Study)

8.8.4 Study Area and Sampling Locations

The study area is defined as the Project reaches directly downstream of all Project dams (except Union Valley Dam which abuts Junction Reservoir) and up to the next reservoir (except the South Fork Rubicon River reach which will end at its confluence with the Rubicon River). The analysis of demand flow for whitewater boating on Project reaches and flow information will rely on a larger study area, which will include all rivers in Central California.

8.8.5 Information Needed From Other Studies

The unregulated/regulated hydrograph (including raw data) for all Project reaches is needed from the Hydrology Study. Channel morphology information on Project reaches is needed from the Channel Morphology Study.

8.8.6 Study Methods And Schedule

The methodology to complete the Whitewater Feasibility Study will include in series of steps to develop the necessary information to address the issue questions. This methodology is proposed for the purpose of identifying river reaches affected by Project operations where there are existing or potential whitewater opportunities while at the same time identifying reaches not affected by the Project or not of interest to the whitewater boating community. These steps, discussed in detail below, include: 1) review existing information, 2) interview key contacts for local information about Project reaches, 3) compare the data for the unregulated vs. regulated hydrograph for Project reaches, 4) identify Project reaches with existing or potential whitewater boating opportunities and 5) recommend any additional studies necessary to determine the range of boatable flows and the types of crafts suitable for each run identified in step no. 4.

1. REVIEW EXISTING INFORMATION - Review existing literature, guidebooks, boater diaries, videos or any other available information to identify runs, access, assessment of difficulty, demand and the range of crafts that may be able to run a reach. Maps will be prepared that identify the Project reaches relative to the routes of access and other important features (i.e., Project dam/diversion, developed recreation facilities, wilderness boundaries, etc). This information will be compiled beginning in the summer of 2002.

2. INTERVIEWS - Additional information about the reaches in the study area will be obtained by interviewing agency representatives, local boating experts, and others persons identified that have local boating knowledge. A questionnaire will be developed to conduct the interviews in the summer and fall of 2002. The questionnaire will be developed with interested stakeholders and will be designed to gather basic information about the runs in the study area. Specific information to be obtained from individuals that have boated the Project reaches, if available, will include: 1) location of runs, 2) quality of runs 3) details of access, 4) estimated class of difficulty 5) estimated flow at the time the reach was boated, 6) estimated range of boatable flows, 7) type of craft used, 8) range of crafts that could be used on the run, 9) number and dates of trips, 10) party size, 11) any safety concerns, 12) how flow information is obtained for Project reaches as well as other reaches, 13) suggestions for improvement (i.e., access, flow and flow information), 14) opportunity for general comments, and 15) listing of other reaches boated by the individual. An initial list of persons to interview will be developed with interested stakeholders and will be supplemented by asking interviewees to provide contact information of additional persons that may have boating experience on the Project reaches. Attempts will be made to contact these additional persons to conduct interviews. The list of contacts and interview responses will be summarized during the summer/fall of 2002.

3. COMPARISON OF REGULATED AND UNREGULATED WHITEWATER BOATING OPPORTUNITIES - The available historical flow information will be summarized to display the flows in the Project reaches under regulated and unregulated conditions. The data will be presented for the entire year (i.e., 12 months) for each reach. The data will be sorted by the type of water year (critically dry, dry, below normal, above normal and wet); graphs of the data as well as the raw data will be provided. This information will be developed as part of the Hydrology Study, which is scheduled to have study results available late in 2002. This information will be used to develop a broad range of possible flow scenarios that could be considered appropriate for PM&E measures. This information will be provided to other technical working groups that are conducting flow related studies to insure that other technical working groups gather the data within the range of flows that may be included as PM&E for whitewater boating. The range of flow scenarios will also be provided to the Aquatics technical working group so that the water balance model can be used to display the effects of the range of possible whitewater boating flows on Project reservoirs.

4. IDENTIFY REACHES WITH POTENTIAL BOATING OPPORTUNITIES/FIELD REVIEW - Based on information gathered in the first three steps, the reaches with existing or potential boating opportunities will be identified. This process will take place in the winter 2002/2003 with interested stakeholders and will include a review of the information gathered in 2002 to determine which reaches can be eliminated from further studies because of physical constraints (e.g., gradient, channel features) or because boating opportunities are not constrained by the Project. If necessary, a field visit to assess the potential of individual reaches will be conducted with interested stakeholders. Additional methods may include conducting an aerial reconnaissance and reviewing aerial photographs and video tape. The end product of this phase will consist of a list of Project reaches with existing or potential boating opportunities completed by the spring of 2003.

5. RECOMMEND ADDITIONAL STUDIES - For the list of Project reaches with existing or potential boating opportunities it is necessary to define a range of boatable flows (minimum and optimum), carrying capacity and the types of craft suitable for boating each identified Project reach. If the information gathered in steps 1-3 above is not adequate to make this determination, this study will identify the additional studies (e.g., Single Flow Feasibility Study or Controlled Flow Study) including a schedule, necessary to obtain this information. A Whitewater Boating Study may be necessary after the completion of the Whitewater Boating Feasibility Study, any Single Flow Feasibility Study, Controlled Flow Study or other flow-related studies. The Whitewater Boating Study would include, but not be limited to, assessing demand, constraints, and conflicts or complementary opportunities with other recreational opportunities.

8.8.7 Analysis

The information developed in this study will ultimately be used to classify the Project reaches into one of two categories. The first category would consist of Project reaches that are not influenced by the Project or not of interest to the whitewater boating community. No further evaluation of these reaches relative to flow will be necessary. The second category would consist of the Project reaches where existing or potential whitewater boating opportunities exist. This second category of reaches will likely require further study and data collection in 2003 to obtain flow related information necessary to develop resource measures for whitewater boating. The analysis to categorize the Project reaches will include an evaluation of 1) adequacy of access, 2) frequency and magnitude of flows (unregulated and regulated), 3) ability to make release (e.g., reservoir storage, maximum release capacity), 3) class of difficulty, 4) barriers to access from Project facilities, 5) location of the reach relative to a Project dam/diversion (i.e. is the reach affected by the Project) 6) demand and 7) the summarized interview responses.

8.8.8 Study Output

The study output will be a narrative report which will include a map of the river reaches which also shows routes of access and other important features (i.e., Project dam/diversion, developed recreation facilities, wilderness boundaries, etc.). Charts and tabular formats may be used to display the physical attributes of the Project reaches and to summarize the responses to interviews (e.g., see tables prepared for the Stanislaus River relicensings). The report will include the issue questions addressed, objectives, study area, methods, results, analysis, discussion and conclusions. The report will identify and propose methodologies and formats for any suggested additional studies. The report will be prepared in a format that allows the information to be inserted directly into the Licensee-prepared Draft Environmental Assessment that will be submitted to the FERC with the Licensee's application for a new license.

8.8.9 Preliminary Estimated Study Cost

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

8.8.10 Plenary Group Endorsement

This study plan was approved on March 21, 2002 by the following entities of the TWG: ENF, SWRCB, American River Recreation Association/Camp Lotus, NPS, Gold Country Paddlers, El Dorado County Parks Dept., California Outdoors and SMUD. None of the participants at the meeting identified any objection to the content of the study plan. Based on comments from the Plenary Group, the plan was revised and sent out to other members of the Recreation and Aesthetics TWG for their consideration. After no comments were received, 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.

8.8.11 Literature Cited.

None.