### Placer County Water Agency Middle Fork American River Project (FERC No. 2079)

# FINAL REC 4 – CONTINGENCY WHITEWATER BOATING STUDY



Placer County Water Agency P.O. Box 6570 Auburn, CA 95604

August 2010

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#### 1.0 INTRODUCTION

This report describes the Contingency Whitewater Boating Study conducted by the Placer County Water Agency (PCWA) in association with the REC 4 – Stream-based Opportunities Technical Study Plan (REC 4 – TSP). The REC 4 – TSP was included in Supporting Document (SD) H of the Pre-Application Document (PAD) for the Middle Fork American River Project (MFP or Project) (PCWA 2007).

Information available in existing sources and collected as part of the REC 4 – Technical Study Report (TSR) (PCWA 2010a) were discussed with the Recreation Technical Working Group (TWG) participants on March 16, 2009, April 6, 2009, and June 15, 2009. The Recreation TWG determined that additional "high value" study information was needed in three bypass reaches to assist in the development and evaluation of potential license conditions. PCWA developed a Revised Whitewater Boating Flow Study Proposal – Bypass Reaches, dated July 23, 2009, in consultation with the Recreation TWG. The revised proposal was discussed with the Recreation TWG during a meeting held on August 3, 2009. The proposal was approved by the Recreation TWG with the understanding that specific study dates would be determined in consultation with the Recreation TWG, and the target study flow for the Middle Fork American River between French Meadows Dam and Middle Fork Interbay would be determined after consultation with potential boating team members. The stakeholder-approved study proposal was included in the 2009 Updated Study Report filed with the Federal Energy Regulatory Commission (FERC or Commission) on January 21, 2010 (PCWA 2010b).

This report presents the REC 4 – Contingency Whitewater Boating Study including the study objectives, study implementation, extent of study area, study approach, study results, and literature cited.

#### 2.0 STUDY OBJECTIVE

The study objective of the REC 4 – Contingency Whitewater Boating Study was to identify the minimum acceptable boatable flow in three bypass river reaches:

- Rubicon River Ellicott Bridge to Ralston Afterbay;
- Middle Fork American River Middle Fork Interbay Dam to Ralston Afterbay; and
- Middle Fork American River French Meadows Dam to Middle Fork Interbay.

These study reaches are shown on Map REC 4-1.

#### 3.0 STUDY IMPLEMENTATION

Study elements described in the REC 4 – Contingency Whitewater Boating Study were initiated in 2009 and completed in 2010. The study elements completed, deviations from the study plan, proposed modifications to the study plan, and outstanding study elements are discussed below.

#### 3.1 STUDY ELEMENTS COMPLETED

The following study elements from the contingency study completed in 2009 and 2010:

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- Monitored flows and communicated probability and timing of spill or high flow events to the potential study team for the Rubicon River.
- Conducted single boating flow studies on two reaches on the Middle Fork American River: (1) from Middle Fork Interbay to Ralston Afterbay, and (2) from French Meadows Dam to Middle Fork Interbay.

#### 3.2 DEVIATIONS FROM TECHNICAL STUDY PLAN

There were no deviations from the REC 4 – Contingency Whitewater Boating Study.

#### 3.3 OUTSTANDING STUDY ELEMENTS

All study elements from the REC 4 – Contingency Whitewater Boating Study have been completed.

#### 3.4 Proposed Modifications to Technical Study Plan

There are no proposed modifications to the REC 4 – Contingency Whitewater Boating Study.

#### 4.0 EXTENT OF STUDY AREA

The study area included the following three study reaches:

- Rubicon River Ellicott Bridge to Ralston Afterbay (Map REC 4-2);
- Middle Fork American River Middle Fork Interbay Dam to Ralston Afterbay (Map REC 4-3); and
- Middle Fork American River French Meadows Dam to Middle Fork Interbay (Map REC 4-4).

#### 5.0 STUDY APPROACH

This study focused on developing "high value" study information to identify the minimum acceptable boatable flow in each of the three specified study reaches. The type of flow study (i.e., reliance on spill/runoff or controlled release), timing of study, target flow range, flow measurement location, and duration of study for each reach are summarized below:

|                                 | Rubicon River  | Middle Fork Am   | nerican River  |
|---------------------------------|--|--|--|
|                                 | Ellicott Bridge to<br>Ralston Afterbay                     | Middle Fork Interbay Dam to Ralston Afterbay   | French Meadows Dam to Middle Fork Interbay   |
| Type of Flow<br>Study           | Single flow with reliance on spill or high runoff event    | Controlled release   | Controlled release   |
| Targeted<br>Timing of<br>Study  | Winter 2009 –<br>Summer 2010                               | Spring 2010 prior to May 15; or immediately after the cessation of spill, if spill extends beyond May 15, 2010 | Spring –<br>early Summer 2010  |
| Target Flow Range               | 500-800 cfs  | 450–550 cfs  | 250 cfs  |
| Flow<br>Measurement<br>Location | Gage at Ellicott Bridge<br>(PCWA Gage No.<br>MF6) (put-in) | Gage above Ralston Afterbay<br>(PCWA Gage No. MF2)<br>(take-out)   | Gage below French<br>Meadows Dam (USGS<br>Gage No. 11427500) (put-<br>in); Gage above Middle Fork<br>Interbay (USGS Gage No.<br>11427760) (take-out) |
| Study<br>Duration               | 1 or 2 days, as<br>determined by<br>the study team         | 1 day  | 1 day  |

As part of the study, the following responsibilities were defined for PCWA, the boating community, and the study team:

- PCWA was responsible for:
  - Developing flow study evaluation form in consultation with the Recreation TWG;
  - Monitoring flow and communicating probability and timing of spill or high runoff event to the potential study team for the Rubicon River study reach;
  - Establishing single flow study date (spill or high runoff event or controlled flow);
  - Providing target flow range for the Middle Fork American River study reaches (controlled flow study);
  - Providing shuttle services for the boating study team;
  - Conducting pre-and post-boating discussions; and
  - Study documentation and reporting.
- Boating community was responsible for:
  - o Providing a minimum of 4 boaters (with signed liability forms).
- Study team was responsible for:
  - o Providing all necessary on-water equipment and support material;
  - o Photo-documentation of flow study (optional);
  - Completing the flow study evaluation forms; and
  - Participating in pre- and post-run discussions.

Specific methods used to carry out the flow studies are described in the following subsections.

#### **Identification of Study Participants**

An initial list of potential study participants was developed in consultation with the whitewater boating stakeholders associated with the Recreation TWG, including the Foothills Water Network (FWN). Final boating study team selection was coordinated by Mr. Jared Noceti (a boating study team member).

The boating study teams consisted of volunteers with the requisite technical abilities and experience to boat each study reach. The years of experience of the members of the boating study teams ranged from 7 to 26 years, with all participants being Class V (expert) level boaters. All boating study team members had prior multi-day "expedition" and "exploratory/first descent" river trip experience and had participated in other whitewater flow studies. Completed Boater Profile Forms for all boating study team members are included in Appendix B, including information about their craft type, skill level, and number of years of experience. (Note that all personal information, such as contact information, has been removed at the request of the stakeholders).

Two boating study teams were assembled, one for each study reach on the Middle Fork American River. The members of the boating study team included:

| Middle Fork American<br>River Reach                | Boating Study Team<br>Members  |
|--|--|
| Middle Fork Interbay Dam to Ralston Afterbay Reach | <ul> <li>Brad Brewer</li> <li>Eric Petlock</li> <li>Jared Noceti<sup>1</sup></li> <li>Katie Scott</li> <li>Phil Boyer</li> <li>Scott Ligare</li> </ul> |
| French Meadows Dam to Middle Fork Interbay Reach   | <ul><li>Charlie Center</li><li>Darin McQuoid</li><li>Macy Burnham</li><li>Thomas Moore</li></ul>   |

After identifying the boating study team members, PCWA emailed invitation letters to each team member, along with information about the target flows and logistics. Copies of invitation letters are included in Appendix C. Accompanying the invitation letter was a Boating Flow Study Boater Profile Form, Single Flow Evaluation Form, Study Itinerary, and Liability Waiver, which are also included in Appendix C.

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<sup>&</sup>lt;sup>1</sup> Mr. Jared Noceti was injured immediately after put-in and did not complete the remainder of the run. He did not complete a Single Flow Evaluation Form.

#### **Development of a Whitewater Boating Survey Instrument**

Prior to conducting the flow studies, PCWA developed a Single Flow Evaluation Form that was approved by the Recreation TWG. This form was based on the Boating Flow Study Evaluation Form developed for flow studies conducted on the Peaking Reach (PCWA 2010a). The Single Flow Evaluation Form was divided into six main sections, each addressing a specific evaluation topic, as follows: flow assessment, difficulty, time, hazards, flow estimates, and access. Questions were also asked to specifically evaluate changes in flow due to accretion in the river reaches during the flow study. A blank Single Flow Evaluation Form is provided in Appendix D.

#### **Study Logistics**

Logistical support for the flow studies was provided by PCWA. PCWA provided transportation for the boating study team members and gear, and food and beverages at the conclusion of the flow studies.

Boating study team members met at pre-determined locations and times for each flow study. Each participant was asked to complete a Boater Profile Form. All boating study team members completed a PCWA liability release form. In addition, each participant was given an opportunity to review the Single Flow Study Evaluation Form and to ask questions.

The boating study team members were shuttled from the meeting location to the put-in. Prior to each flow study, an orientation meeting was conducted, covering the following topics: study objectives; study process; logistics; and emergency protocols. Boating study team members were instructed to boat the run in a manner consistent with their typical boating outing. Team members were instructed to evaluate flow conditions related to:

- Overall nature and character of the resource;
- Types of channel conditions found in the run;
- Difficulty of the whitewater (initial class rating based on the International Scale of River Difficulty Classification System); and
- Flow conditions as related to navigability, safety, and recreational values.

The boating study team was provided with satellite photo maps with river miles and GPS locations plotted in ½-mile increments, a GPS unit with pre-programmed GPS waypoint locations, and a satellite phone for emergency use. Roads, trails, and helicopter landing sites were identified on the maps. The boating study team was provided instruction on how to use the GPS in order to reference their location on the provided maps and gage their rate of progress down the reach. For the study on the Middle Fork American River – French Meadows Dam to Middle Fork Interbay, PCWA also contracted for periodic helicopter reconnaissance of the flow study in case there was a need to provide emergency assistance to the boating study team.

Immediately following each run, the boating study team members completed the Single Flow Evaluation Form. Copies of the completed forms are included in Appendix E.

After collecting the forms, the run was discussed as a group. The purpose of the group discussion was to gather additional information to support of the information gathered during the flow study.

### **Data Analysis**

Data from the Single Flow Evaluation Forms were reviewed and entered into an Excel spreadsheet. Notes of the post-run group discussions were reviewed and summarized to supplement data recorded on the Single Flow Evaluation Forms. The data were then compiled to develop Minimum Acceptable, Optimal, and Maximum Acceptable boatable flow ranges. The data were also used to develop additional information about physical logistics and experiential values for each run.

#### 6.0 STUDY RESULTS

This results section is organized by reach: 1) Rubicon River – Ellicott Bridge to Ralston Afterbay reach; 2) Middle Fork American River – Middle Fork Interbay Dam to Ralston Afterbay reach; and 3) Middle Fork American River – French Meadows Dam to Middle Fork Interbay reach. The summaries of the Single Flow Evaluation Forms and post-run discussion are included in Appendices E and F, respectively.

#### 6.1 RUBICON RIVER – ELLICOTT BRIDGE TO RALSTON AFTERBAY

The proposed flow study on the Rubicon River – Ellicott Bridge to Ralston Afterbay reach was not conducted. The flow study was to be conducted on a spill or high flow event with: (1) flow magnitudes between 500 cfs and 800 cfs (measured at Ellicott Bridge); and (2) sufficient duration to enable a study team to assemble and safely boat the reach in a 1 or 2-day trip. Flow conditions suitable for conducting the flow study on the Rubicon River were not present at any time during the period planned for conducting the flow study. Daily average flow for the Rubicon River at Ellicott Bridge was less than 275 cfs from October 30, 2009 to May 22, 2010 (Appendix A).

As a flow study was not completed for this reach, the best available information on boatable flows in this reach is provided in REC 4 – TSR (PCWA 2010a) and summarized below. These boatable flow ranges were based on a review of available literature (Holbeck and Stanley 1988 and California Creek's website (www.cacreeks.com)), consultation with the Whitewater Boating Focus Group, and through follow-up consultation with experienced boaters.

| Rubicon River: Ellicott Bridge to Ralston Afterbay Reach |   |  |   |                |                           |  |
|--|---|--|---|----------------|---------------------------|--|
|  | Flow Range (cfs)                                  |  |   |                |                           |  |
|  | Pub   | lished Informa                                 |   |                |                           |  |
| Acceptable<br>Flow                                       | Holbeck<br>& Stanley<br>(Measured<br>at take-out) | California<br>Creeks<br>(Inflatable<br>Kayaks) | California<br>Creeks<br>(Hardshell<br>Kayaks) | Focus<br>Group | Follow-up<br>Consultation |  |
| Minimum<br>Acceptable Flow                               | 500   | 200  | 500   | 400            | 400                       |  |
| Optimal Flow   | 1,200   | _  | _   | 500–700        | 700–1,500                 |  |
| Maximum<br>Acceptable Flow                               | 2,000   | 500  | 2,000   | 1,200          | 3,000                     |  |

### 6.2 MIDDLE FORK AMERICAN RIVER - MIDDLE FORK INTERBAY DAM TO RALSTON AFTERBAY

PCWA conducted the single flow whitewater boating study on Saturday, May 8, 2010. The study flow, estimated at the put-in, was 425 cfs. The measured flow at the take-out at the bottom of the reach was 475 cfs. A total of 5 boaters participated in the study, all in hard-shell kayaks. The boating study team put in at approximately 10:15 am and arrived at the take-out at about 5:15 pm (7 hours on-river).

All of the boating study team members rated the run Class V, except for one participant who rated the run Class IV/V. Most boating study team members portaged 3 or 4 times. During the post-run discussion, the boating team members agreed that the run was a Class V "Sierra style" wilderness run. The study reach is considered a single-day run. The boating study team considered the study reach suitable for kayaks and closed-deck canoes; and one member thought it was also suitable for small rafts. Hazards noted by the study team included instream wood and trees growing in the channel.

The boatable flow ranges developed by the study team are summarized below.

| Middle Fork American River: Middle Fork Interbay Dam to Ralston Afterbay Reach |                                   |  |  |  |
|--|-----------------------------------|--|--|--|
| Acceptable   | Flow Range (cfs)                  |  |  |  |
| Flow   | PCWA Flow Study                   |  |  |  |
| Minimum Acceptable Flow  | 400-425 at put-in                 |  |  |  |
| Optimal Flow   | 450 at put-in/500-550 at take-out |  |  |  |
| Maximum Acceptable Flow  | 600 at take-out                   |  |  |  |

All boaters indicated they were "Highly Satisfied" with the study flow of 425 cfs (at the put-in) on the Single Flow Evaluation Forms. Two members responded that their preferred flow was the same as the study flow. Three members of the boating study team indicated they would prefer a "slightly higher flow" - approximately 100 cfs of additional flow.

On the Single Flow Evaluation Forms, each boating study team member estimated the Minimum Acceptable Flow was between 400 cfs and 450 cfs. During the post-run

discussion, the boating study team agreed that the Minimum Acceptable Flow was between 400 cfs and 425 cfs (at the put-in). Responses for the Optimal Flow on the individual evaluation forms ranged from 475 cfs to 550 cfs. Post-run discussion refined this range to 450 cfs at the put-in and between 500 cfs and 550 cfs at the take-out. Maximum Acceptable Flow estimates on the individual evaluation forms ranged from 525 cfs to 600 cfs. During the post-run discussion, this was refined to 600 cfs at the take-out. All flow-related characteristics were rated by the boating team members as "Acceptable" or "Highly Acceptable", except for the "availability of whitewater play areas" ("Unacceptable" rating). Additional information supporting these flow ranges is provided in Appendices D and E.

### 6.3 MIDDLE FORK AMERICAN RIVER - FRENCH MEADOWS DAM TO MIDDLE FORK INTERBAY

The flow study was conducted on Saturday, May 22, 2010 by four hard-shell kayakers. The study flow measured at the gage at the put-in was 252 cfs. Weather conditions for the study were inclement, with intermittent snow and air temperatures in the 20s and 30s. The boating study team was on-water at 7:45 am.

After about three hours of boating, the team had only travelled approximately 1.75 miles downstream from the put-in due to extensive amounts of logs and downed trees in the river generated from the 2001 Star Fire. These obstacles required the study team to scout, and/or portage about 15 times over the length of the 1.75 mile of reach boated, which took from 45 minutes to an hour of the on-river time. Based on the extremely slow rate of travel and the poor weather conditions, the boating study team decided it was unsafe to continue downstream at 10:45 am. They hiked out to a road and were spotted by the helicopter contracted by PCWA. The boating study team and their equipment were removed from the canyon by helicopter to the put-in where the ground support team was waiting.

PCWA provided the boating study team with the opportunity to helicopter over the remainder of the study reach in order to assess the channel/flow conditions for the entire study reach. All boating study team members evaluated the remainder of the study reach from the helicopter.

The boating study team members felt that their responses on the Single Flow Evaluation Form and in the post-run discussion were applicable for the entire study reach, based on the section of river paddled and the remainder of the reach assessed by helicopter. All members of the study team rated the reach Class V and described the reach as a steep "creeking." The reach would be considered a multi-day run under the existing conditions due the amount of wood in the river requiring extensive scouting and portaging. The hazards noted by the team members were downed trees and instream wood the channel.

The following table summarizes the acceptable flow ranges identified through PCWA's flow study.

| Middle Fork American River: French Meadows Dam to Middle Fork Interbay Reach |                   |  |  |  |  |
|--|-------------------|--|--|--|--|
| Acceptable   | Flow Range (cfs)  |  |  |  |  |
| Flow   | PCWA Flow Study   |  |  |  |  |
| Minimum Acceptable Flow  | 200 at put-in     |  |  |  |  |
| Optimal Flow   | 250 at put-in     |  |  |  |  |
| Maximum Acceptable Flow  | 300-350 at put-in |  |  |  |  |

Three boating study members indicated they were "Highly Satisfied" with the study flow, with the remaining team member responding that they were "Moderately Satisfied" with the study flow. The flow-related characteristics receiving an "Unacceptable" rating at the study flow were "Boatability", "Rate of Travel", "Safety", and "Number of Portages". These ratings were based on channel condition, and not flow (Appendices D and E).

On the Single Flow Evaluation Forms, the individual boating study team estimated the Minimum Acceptable Flow was between 200 cfs and 252 cfs, the Optimal Flow was 250 cfs (one response at 252 cfs), and the Maximum Acceptable Flow ranged between 300 cfs and 400 cfs. During the post-run discussion there was consensus that the Minimum Acceptable Flow was 200 cfs, the Optimal flow was 250 cfs, and that the Maximum Acceptable Flow between 300 cfs and 350 cfs (all measured at the put-in). The Maximum Acceptable Flow is for the reach between French Meadows Dam and the Duncan Creek confluence, as the effects of the flow contribution from Duncan Creek are unknown at this time.

In the post- run discussion, all team members stated that the flow was optimal, but it was the in-channel wood that created the "Unacceptable" ratings. Additional information supporting these flow ranges is provided in Appendices D and E.

After the flow study, a section of this run was boated from the Chipmunk Creek confluence (approximately RM 42.5, see Map REC 4-4) to Middle Fork Interbay on May 29, 2010 by Charlie Center, Alex Wolfgram, and Mike Elam. PCWA was not involved with this whitewater boating run and did not provide a flow release or other logistical or support function. The combined inflow from French Meadows Dam, Duncan Creek, and accretion flows into Middle Fork Interbay was 215 cfs (measured at the USGS Middle Fork American River above Middle Fork Powerhouse near Foresthill gage 11427760). The release from French Meadows Dam was 35 cfs. Duncan Creek release on the day of the run was 17 cfs. Considerably less instream woody debris was present within this section of river compared to the section immediately downstream from French Meadows Dam. The run took about 7 hours on-water, with 5 to 6 portages.

The river upstream of the Duncan Creek confluence had the "feel" of a "creek/canyon". The group identified a gorge section of river located about ½-mile upstream of the confluence with Duncan Creek that would require a long and difficult portage if flows are too high. Just above the confluence with Duncan Creek, the Middle Fork American River changed to a pool/drop channel that was relatively "clean", and the reach felt more like a "river". There were no special concerns or issues associated with this section of the run.

Based on this run, the boaters thought that the boating range estimates previously made as part of the Contingency Whitewater Boating Study (200 to 350 cfs, measured below French Meadows Dam) would be too high, especially when combined with springtime flow accretions. For the section of the run upstream of the Duncan Creek confluence, the boating group estimated that the optimal flow range is between 175 and 200 cfs.

The following table summarizes the acceptable flow ranges (measured near the takeout) identified:

| Middle Fork American River:<br>French Meadows Dam to Middle Fork Interbay Reach – Follow-Up Consultation |                       |  |  |  |
|--|-----------------------|--|--|--|
| Acceptable Flow Range (cfs)  |                       |  |  |  |
| Minimum Acceptable Flow  | 215 near take-out     |  |  |  |
| Optimal Flow   | 300-350 near take-out |  |  |  |
| Maximum Acceptable Flow  | 450 near take out     |  |  |  |

#### 7.0 LITERATURE CITED

California Creeks. 2009. www.cacreeks.com

Cassady, J. and Calhoun, F. 1995. California Whitewater: A Guide to the Rivers. Third Edition.

Holbek, L. and Stanley, C. 1998. The Best Whitewater in California. Third Edition.

Placer County Water Agency (PCWA). 2007. Pre-Application Document. Middle Fork American River Project. FERC Project No. 2079.

\_\_\_\_\_. 2010a. REC 4 – Stream-Based Recreational Opportunities Technical Study Plan. Middle Fork American River Project. FERC Project No. 2079.

\_\_\_\_\_. 2010b. 2009 Study Implementation Progress Report for the Middle Fork American River Project (FERC Project No. 2079) per 18 CFR § 5.15 (c)(1).

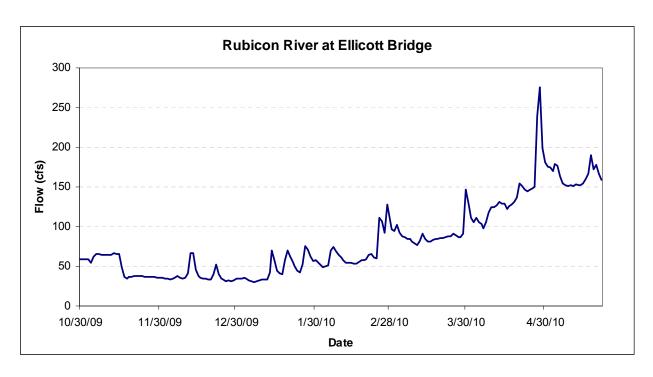
**MAPS** 



### **APPENDIX A**

Daily Average Flow for the Rubicon River at Ellicott Bridge from October 30, 2009 to May 22, 2010

Figure A-1. Daily Average Flow for the Rubicon River at Ellicott Bridge from October 30, 2009 to May 22, 2010.



The flow study was to be conducted on a spill or high flow event with (1) flow magnitudes between 500 cfs and 800 cfs (measured at Ellicott Bridge) and (2) sufficient duration to enable a study team to assemble and safely boat the reach in a 1 or 2-day trip.

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# APPENDIX B Completed Boater Profile Forms

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

**Background Information (Confidential\*)** 

Date: 5-07-10
Name: Ph. 1 Boyer

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

1. Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|                  | Skill Level  |     |   |    |     |    | Years of |            |
|------------------|--|-----|---|----|-----|----|----------|------------|
| Craft Type       |  | N/A | 1 | II | 111 | IV | V        | Experience |
| (Kayak)          |  |     |   |    |     |    | V        | 26         |
| Closed deck can  | oe   |     |   |    |     |    |          |            |
| Raft             |  |     |   |    |     |    | V        | 76         |
| Open canoe       |  |     |   |    |     |    |          |            |
| Cataraft         |  |     |   |    |     |    | V        | 20         |
| Other (specify): |  |     |   |    |     |    |          |            |
| Other (specify): | स्वाच्या तथा पर स्वाच्या १९४१ मेरे सार १९४१ सम्बन्धाः १९५० स्वाच्याः १९५० स्वाच्याः १९५४ स्वाच्याः स्वाच्याः १९५ |     |   |    |     |    |          |            |

2. How many days do you participate in whitewater boating activities annually? 200 +

Both

3a. Are these typically single or multi-day trips?

Single Multi-day

|    |               |               |            | •             |            |          |
|----|---------------|---------------|------------|---------------|------------|----------|
| 3. | How would you | best describe | the "type" | of whitewater | boating yo | u prefer |

Single-day recreational river trips

Multi-day recreational river trips

Both Multi-day and single-day recreational river trips

Multi-day "expedition" river trips

"Exploratory" single-day or multi-day river trips

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         |                |
| Rubicon River              | Ellicott Bridge to Long Canyon           |                |
| Rubicon River              | Long Canyon to Ralston Afterbay          |                |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

|  | •                                    |                                |
|--|--------------------------------------|--------------------------------|
| Yes No   |                                      |                                |
| If yes, please provide the year, rivadditional space if required.) | ver, and reach for each trip. (Use I | back of page for               |
| River: West Fork Carson  | Reach: Picketts Jot. To White        | Wear: 1997                     |
| River: South FIC Rub Com   | Reach: Low lake - 13N20              | _Year: <u>1998</u>             |
| River: Rio Alsaszca Mexico   | Reach: Middle Section                | _Year: <u>♪०ು <b>&amp;</b></u> |
| River: Roo X.co Mexico   | Reach: Lover Section                 | _Year: <u> 2006</u>            |
| River: Rio Enversadesca  | Reach: Middle Section                | _Year: <u>2-004</u> _          |
|  |                                      |                                |

6. Have you participated in a Whitewater Boating Flow Study in the past?

5. Have you participated in any "exploratory" or "first-decent" river trips?

| Yes No If yes, please provide the additional space if require |                     | study. (Use back of page for            |
|---|---------------------|---|
| Study 1 -Year: <u>199</u> 2                                   | River: N. Mokulumne | Reach: Devils Nose Bear Fiver To ife CK |
| Study 2 -Year: 2004   | River: Son Janquin  | Reach: Tied For FIRST                   |
| Study 3 - Year: 🏣   | River: Son Juaquin  | Reach: Chawanakee Corpe                 |

(Yes)

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

DRAFT BOATER PROFILE FORM

| 7. | Have you ever been employed for your whitewater boating skills? | Yes | No |
|----|---|-----|----|
|    | -   |     |    |

| Type of Employment   | # Years |
|--|---------|
| Professional Guide: Recreational whitewater boating - Rafting  | 2-6     |
| Professional Guide: Recreational whitewater boating - Kayaking | 26      |
| Professional Guide: Expedition boating                         | 20      |
| Instructor – Boating Skills                                    | 15      |
| Instructor – Instructor Certification                          |         |
| Instructor – Swift Water Safety                                |         |
| Safety Support   | 22      |
| Filming  | 23      |
| Other Lamper Ton   | 10 412  |

| _ |  |
|---|--|
|   |  |
|   | Do you have any certifications for whitewater boating? Yes No                  |
| - | If yes, please explain list  |
| • | Gertification: Swift Water Rescue E.M.T. / C.P.R. / Back Country Food Handlers |
|   |  |
| - | To which whitewater organizations, groups, or clubs do you belong?             |
|   | AWA, Grand Conjun River Guide assoc  |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### J' BOATER PROFILE FORM

| Background Information (Confidential*) |          |        |     |  |  |
|--|----------|--------|-----|--|--|
| Date: _                                | 5/8/10   | •      |     |  |  |
| Name:                                  | <u> </u> | ad Bre | wer |  |  |

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

Chill Loyal

1. Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    |  |            |          | OKIII E | -CACI  |         |       | .,                     |
|----|--|------------|----------|---------|--------|---------|-------|------------------------|
|    | Craft Type   | N/A        | ı        | II      | 111    | IV      | ٧     | Years of<br>Experience |
|    | Kayak  |            |          |         |        |         | X     | 18                     |
|    | Closed deck canoe  | X          |          |         |        |         |       |                        |
|    | Raft   |            |          |         | X      |         |       | 1                      |
|    | Open canoe   | X          |          |         |        |         |       |                        |
|    | Cataraft   | X          |          |         |        |         |       |                        |
|    | Other (specify):   |            |          |         |        |         |       | <del></del>            |
|    | Other (specify):   |            |          |         |        |         |       | <del></del>            |
| 2. | How many days do you participate in  3a. Are these typically single or  Single Multi-day | multi-     |          |         | ng act | ivities | annua | ally? <u>110</u>       |
|    |  | <i>/</i> · | ر مؤامات | ton     | haatin |         | nrofo | O                      |
| 3. | How would you best describe the "typ   | be of v    | willer   | vateri  | DOBUI  | ig you  | preie | 17                     |
|    | ☐ Single-day recreational river trips ☐ Multi-day recreational river trips               |            |          |         |        |         |       |                        |
|    | ☐ Both Multi-day and single-day rec  | reatior    | nal rive | er trip | s      |         |       |                        |
|    | Multi-day "expedition" river trips   |            |          | ·       |        |         |       |                        |
|    | ☐ "Exploratory" single-day or multi-d  | lay rive   | er trips | \$      |        |         |       |                        |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### **DRAFT BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         |                |
| Rubicon River              | Ellicott Bridge to Long Canyon           | 2              |
| Rubicon River              | Long Canyon to Ralston Afterbay          | 2              |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

| 5. | Have you participated in a                                      | ny "exploratory" or "first-dece        | nt" river trips?                                   |
|----|---|--|--|
|    | Yes No If yes, please provide the yadditional space if required | year, river, and reach for each<br>d.) | n trip. (Use back of page for                      |
|    | River: Kotsina , AY   | Reach: Lower C                         | <u> 2996</u> Year: <u>1996</u>                     |
|    | River: Ingam Crk,   | AK Reach: Lowc                         | Year: <u>1976</u>                                  |
|    | River: Bird Crk AY  | Reach: Low                             | ccYear: 1996                                       |
|    | River:  | Reach:                                 | Year:  |
|    | River:  | Reach:                                 | Year:  |
| 3. | Yes No  |  | udy in the past?<br>h study. (Use back of page for |
|    | Study 1 -Year: <u>\1998</u>                                     | River: N. Yuba                         | Reach: blw Bullards Bar                            |
|    | Study 2 -Year:  | River:                                 | Reach:   |
|    | Study 3 - Year:   | River:                                 | Reach:   |
|    |   |  |  |

# Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### **DRAFT BOATER PROFILE FORM**

| Type of Employment  | # Ye |
|---|------|
| Professional Guide: Recreational whitewater boating - Rafting   |      |
| Professional Guide: Recreational whitewater boating - Kayaking  |      |
| Professional Guide: Expedition boating  |      |
| Instructor – Boating Skills   |      |
| Instructor – Instructor Certification   |      |
| Instructor – Swift Water Safety   |      |
| Safety Support  |      |
| Filming   |      |
| Other   |      |
| fyes, please explain your experience (year, location, position held,  Tausht beginner hayaking class,  2003 on the Ocore River, T.  |      |
|   |      |
| f yes, please explain your experience (year, location, position held,  Taught beginner kayaking class,  2003 on the ocoec Riser, T. |      |
| Taught beginner hayaking classing 2003 on the Ocoac River, T.   |      |
| Taught beginner hayaking classing classing classing classing an the ocoec River, T.   |      |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### **BOATER PROFILE FORM**

| Background Information (Confidential*) |        |        |  |  |  |
|--|--------|--------|--|--|--|
| Date: _                                | 5/7/10 |        |  |  |  |
| Name: _                                | Scott  | Ligare |  |  |  |

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

 Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    |  |           |          | Skill L  | _evel                                   |         |        |                        |
|----|--|-----------|----------|----------|---|---------|--------|------------------------|
|    | Craft Type   | N/A       | ı        | П        | *************************************** | IV      | ٧      | Years of<br>Experience |
|    | Kayak  |           |          | П        | Π,                                      |         |        | 19                     |
|    | Closed deck canoe  | Z         |          |          |   |         |        |                        |
|    | Raft   | $\square$ |          |          |   |         |        |                        |
|    | Open canoe   | <b>2</b>  |          |          |   |         |        |                        |
|    | Cataraft   | Ø.        |          |          |   |         |        |                        |
|    | Other (specify):   |           |          |          |   |         |        |                        |
|    | Other (specify):   |           |          |          |   |         |        |                        |
| 2. | How many days do you participate in 3a. Are these typically single or Single Multi-day   | multi-    | day tri  |          | ng act                                  | ivities | annua  | lly? >100              |
| 3. | How would you best describe the "type Single-day recreational river trips Multi-day recreational river trips Both Multi-day and single-day recent Multi-day "expedition" river trips Exploratory" single-day or multi-day "expedition" | reatior   | nal rive | er trip: |   | g you   | prefer | ?                      |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### **DRAFT BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay | 1              |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         | -              |
| Rubicon River              | Ellicott Bridge to Long Canyon           | 3              |
| Rubicon River              | Long Canyon to Ralston Afterbay          | 3              |
| Duncan Creek               |  | ·              |
| Long Canyon Creek          |  |                |

| 5. | Have you participated in any "exploratory" or "first-decent" river trips?   |
|----|---|
|    | .☑ Yes □ No   |
|    | If yes, please provide the year, river, and reach for each trip. (Use back of page for additional space if required.)         |
|    | River: French (reck Reach: 10 mer Year: 14482008  |
|    | River: Canzan Creek (trinity) Reach: Upper Year: 1997   |
|    | River: Uzungnyush (KyrzyszaR) each: entire Year: 2003   |
|    | River: Swift (rek Reach: UPIZE Year: 1999   |
|    | River: Year:  |
| (  | River: Reach:Year:  + more in Kyrgyszton, trunder, India that I connot emember the names of:                                  |
| 6. | Have you participated in a Whitewater Boating Flow Study in the past?   |
|    | Yes No If yes, please provide the year, river, and reach for each study. (Use back of page for additional space if required.) |
|    | Study 1 - Year: 1007 River: Canjon Creek Reach: Upper   |
|    | Study 2-Year: 2007 River: Fordyce Creek Reach: Fordyce - Spolding   |
|    | Study 3 - Year: 2009 River: Yuba Gap Reach: Spalding - washing ton  |
|    |   |

# Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### DRAFT BOATER PROFILE FORM

| /pe of Employment  | # Years                          |
|--|----------------------------------|
| Professional Guide: Recreational whitewater boating - Rafting  |                                  |
| Professional Guide: Recreational whitewater boating - Kayaking   | 4                                |
| Professional Guide: Expedition boating   |                                  |
| Instructor – Boating Skills  | 4                                |
| Instructor – Instructor Certification  |                                  |
| Instructor – Swift Water Safety  |                                  |
| Safety Support   | 2                                |
| Filming  | 7                                |
| Other River Ranger   |                                  |
| yes, please explain your experience (year, location, position held, extends head coach / Program difector for working for 2 years. I have been a raft trips for 10 yrs. I was a River Ranger                   | c.): Id Class  Safety law on the |
| yes, please explain your experience (year, location, position held, extends head coach / Program difector for workleadenny for 2 years. I have been a raft trips for ID yrs. I was a River Ranger or for 5 yrs | safety law<br>on the             |
| yes, please explain your experience (year, location, position held, express head coach / Program difector for working for 2 years. I have been a raft trips for 10 yrs. I was a River Ranger ar for 5 yrs      | safety law<br>on the             |
| yes, please explain your experience (year, location, position held, extends head coach / Program difector for workleadenny for 2 years. I have been a raft trips for ID yrs. I was a River Ranger or for 5 yrs | safety law<br>on the             |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

|         |        | (     | , |  |
|---------|--------|-------|---|--|
| Date: _ | 5/7/10 |       |   |  |
| Name:   | JALGO  | Nocen |   |  |

Background Information (Confidential\*)

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

1. Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|              |   |         |         | Skill L | .evel  |         |       |                        |
|--------------|---|---------|---------|---------|--------|---------|-------|------------------------|
|              | Craft Type  | N/A     | i       | H       | Ш      | IV      | V     | Years of<br>Experience |
|              | Kayak   |         |         |         |        |         |       | 23                     |
|              | Closed deck canoe   |         |         |         |        |         |       |                        |
|              | Raft  |         |         |         |        |         | Ø     | 10                     |
|              | Open canoe  |         |         |         |        |         |       |                        |
|              | Cataraft  |         |         |         |        |         |       |                        |
|              | Other (specify):  |         |         |         |        |         |       |                        |
|              | Other (specify):  |         |         |         |        |         |       |                        |
| <del>}</del> | How many days do you participate in 3a. Are these typically single or Single Multi-day  | multi-c | day tri |         | ng act | ivities | annua | lly? <u>[DD</u>        |
| 3.           | How would you best describe the "type" of whitewater boating you prefer?  Single-day recreational river trips  Multi-day recreational river trips  Both Multi-day and single-day recreational river trips  Multi-day "expedition" river trips  Exploratory" single-day or multi-day river trips |         |         |         |        |         |       |                        |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### DRAFT BOATER PROFILE FORM

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |  |
|----------------------------|--|----------------|--|
| Middle Fork American River | French Meadows Dam to Duncan Creek       | 0              |  |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     | 0              |  |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay | D              |  |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         | D              |  |
| Rubicon River              | Ellicott Bridge to Long Canyon           | 2              |  |
| Rubicon River              | Long Canyon to Ralston Afterbay          | 3              |  |
| Duncan Creek               |  | D              |  |
| Long Canyon Creek          |  | 1              |  |

| 5.   | . Have you participated in any "exploratory" or "first-decent" river trips? |        |                        |                 |                   |  |  |
|--|---|--------|------------------------|-----------------|-------------------|--|--|
|  | ☑ Yes ☐ No  |        |                        |                 |                   |  |  |
|  | If yes, please provide the yadditional space if required                    |        | er, and reach for each | n trip. (Use ba | ack of page for   |  |  |
|  | River: South SILVER   | -      | Reach: ABOVE 14        | EHWSE           | Year: <u>1998</u> |  |  |
|  | River: MODLE COSUMNE  | 5      | Reach: UPPEL / PIPI    | TO CHEME        | Year: <u>1999</u> |  |  |
|  | River: CAMP CLEEK   |        | Reach: 3 RUNS          |                 |                   |  |  |
|  | River: MIDDLE STANISLA  | NS_    | Reach: H515 Yz A       | TCRE            | Year: <u>7003</u> |  |  |
|  | River: MANNE FOR KA   | MAH    | Reach: MANGE FAI       | LS TO POTWISH   | Year: <u>1901</u> |  |  |
|  |   |        |                        |                 |                   |  |  |
| 6.   | Have you participated in a  | Whitew | vater Boating Flow Stu | idy in the past | t?                |  |  |
|  | ☐ Yes ☐ No  |        |                        |                 |                   |  |  |
| If yes, please provide the year, river, and reach for each study. (Use back of page for additional space if required.) |   |        |                        |                 |                   |  |  |
|  | Study 1 -Year: <u>1444<sup>1</sup></u>                                      | River: | N. FEATHER             | Reach: <u>V</u> | PEL, UPPEL SENECA |  |  |
|  | Study 2 -Year: <u>1703</u>  | River: | MIDDLE STANISLAS       | Reach: HE       | ay 12 Acre        |  |  |
|  | Study 3 - Year: 100211  | River: | SAN JOADUN             | Reach:Ct        | tananause balbe   |  |  |
|  |   |        |                        |                 |                   |  |  |

# Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### DRAFT BOATER PROFILE FORM

| Type of Emp                             | loyment   | # Ye   |
|---|---|--------|
| Profession                              | al Guide: Recreational whitewater boating - Rafting       | lc     |
| Profession                              | al Guide: Recreational whitewater boating - Kayaking      |        |
| Profession                              | al Guide: Expedition boating                              |        |
| Instructor -                            | - Boating Skills  |        |
| Instructor -                            | - Instructor Certification                                |        |
| Instructor -                            | - Swift Water Safety                                      |        |
| Safety Sup                              | port  | 10     |
| Filming                                 |   | 3      |
| Other                                   | SALES NED KAYAK MANUFACUNER                               | 12     |
| RAFF BUID                               | explain your experience (year, location, position held, e | etc.): |
| RAFF GUID                               | explain your experience (year, location, position held, e | etc.): |
| RAFF BUID                               | explain your experience (year, location, position held, e | etc.): |
| RAF GUIDI<br>SALES II<br>Do you have a  | explain your experience (year, location, position held, e | etc.): |
| RAF GUIDI<br>SALES II<br>Do you have a  | explain your experience (year, location, position held, e | etc.): |
| RAF GUIDI<br>SALES II<br>Do you have a  | explain your experience (year, location, position held, e | etc.): |
| RAF GUIDI<br>SALES II<br>Do you have a  | explain your experience (year, location, position held, e | etc.): |
| NAFT GUID<br>SALES II<br>Do you have al | explain your experience (year, location, position held, e | etc.): |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

Background Information (Confidential\*)

Date:

Name:

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

 Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    | Skill Level   |          |         |        |        |         |          |                                       |
|----|---|----------|---------|--------|--------|---------|----------|---------------------------------------|
|    | Craft Type  | N/A      | .1      | 11     | Ш      | IV      | ٧        | Years of<br>Experience                |
|    | Kayak   |          |         |        |        |         | A        | 20                                    |
|    | Closed deck canoe   |          |         |        |        |         |          | 20                                    |
|    | Raft  |          |         |        |        | , 🗆     | 么        | 20+                                   |
|    | Open canoe  |          |         |        | X      |         |          | 20                                    |
|    | Cataraft  |          |         |        |        |         | 这        | · · · · · · · · · · · · · · · · · · · |
|    | Other (specify):  |          |         |        |        |         |          |                                       |
|    | Other (specify):  |          |         |        |        |         |          | <del></del>                           |
| 2. | How many days do you participate in   | white    | water   | boatir | ng act | ivities | annua    | lly? <u>20</u> -40                    |
|    | 3a. Are these typically single or   | multi-   | day tri | ips?   |        |         |          |                                       |
|    | ☐ Single ☐ Multi-day  | ACB      | oth     |        |        |         |          |                                       |
| 3. | How would you best describe the "type   | oe" of v | whitev  | vater  | boatir | ıg yoı  | ı prefer | ?                                     |
|    | Single-day recreational river trips Multi-day recreational river trips Both Multi-day and single-day rec Multi-day "expedition" river trips "Exploratory" single-day or multi-day | reatior  |         |        | s      |         |          |                                       |

### Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

### DRAFT BOATER PROFILE FORM

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run                          |
|----------------------------|--|---|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |   |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     | , |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |   |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         |   |
| Rubicon River              | Ellicott Bridge to Long Canyon           |   |
| Rubicon River              | Long Canyon to Ralston Afterbay          |   |
| Duncan Creek               |  |   |
| Long Canyon Creek          |  |   |

| 5. Have you participa                                | ated in any "exploratory" or   | "first-decent" river trips   | ?                  |
|--|--|--|--------------------|
| Yes No<br>If yes, please prov<br>additional space if | vide the year, river, and rea  | ch for each trip. (Use t   | pack of page for   |
| <i></i>  | eek Reach: Be  |  |                    |
| River: S. Feathe                                     |  | HI- Gray Farluston   |                    |
| River: Bear Ka                                       | Reach: <u>D</u>  | htch Hat   | _Year: <u>20(0</u> |
| River:   | Reach:   | · · · · · · · · · · · · · · · · · · ·  | _Year:             |
| River:   | Reach:   | the state of the s | _Year:             |
| If yes, please provadditional space if               | vide the year, river, and rea<br>f required.)  Of River: 5. Feat  D5 River: 6. Foot Co | ch for each study. (Us  Kev Reach: Foreck Reach: Lo  |                    |

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

| Type of Employment   | # Years |
|--|---------|
| Professional Guide: Recreational whitewater boating - Rafting  | 20+     |
| Professional Guide: Recreational whitewater boating - Kayaking   |         |
| Professional Guide: Expedition boating   | 15      |
| Instructor – Boating Skills  | io      |
| Instructor – Instructor Certification  |         |
| Instructor – Swift Water Safety  | 5       |
| Safety Support   | 10      |
| Filming  |         |
| Other  |         |
| yes, please explain your experience (year, location, position held,  | etc.):  |
| yes, please explain your experience (year, location, position held, position held |         |
| yes, please explain your experience (year, location, position held, bo you have any certifications for whitewater boating?   yes, please explain list certification:   EMT, Suff Water R   |         |

#### Middle Fork American River – MF Interbay to Ralston Afterbay **Whitewater Boating Flow Study**

#### .' BOATER PROFILE FORM

**Background Information (Confidential\*)** 

\*Confidentiality Statement

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## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

 Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    |   | Skill Level |         |          |        | Voore of |          |                        |
|----|---|-------------|---------|----------|--------|----------|----------|------------------------|
|    | Craft Type  | N/A         | l       | II       | Ш      | ΙŅ       | ٧        | Years of<br>Experience |
|    | Kayak   |             |         | <u> </u> |        |          | X        | 8                      |
|    | Closed deck canoe   | $\boxtimes$ |         |          |        |          |          | -                      |
|    | Raft  |             |         |          | A      |          |          | 3                      |
|    | Open canoe  | 又           |         |          |        |          |          | <del></del> .          |
|    | Cataraft  | Ŋ           |         |          |        |          |          |                        |
|    | Other (specify):  |             |         |          |        | . 🔲      | : 🔲      |                        |
|    | Other (specify):  |             |         |          |        |          |          |                        |
| 2. | How many days do you participate in 3a. Are these typically single or Single Multi-day  | multi-      | day tri |          | ng act | ivities  | annua    | ally? <u>20</u> 5+     |
| 3. | How would you best describe the "tyle"  Single-day recreational river trips  Multi-day recreational river trips  Both Multi-day and single-day recreation river trips  Multi-day "expedition" river trips  Exploratory" single-day or multi-day | creation    | nal riv | er trip  |        | ng you   | ı prefei | <b>?</b>               |

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         |                |
| Rubicon River              | Ellicott Bridge to Long Canyon           |                |
| Rubicon River              | Long Canyon to Ralston Afterbay          |                |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

| 5. | 5. Have you participated in any "exploratory" or "first-decent" river trips? |  |                                |  |  |  |
|----|--|--|--------------------------------|--|--|--|
|    | Yes No   |  |                                |  |  |  |
|    | If yes, please provide the yadditional space if required                     | year, river, and reach for each<br>d.) | trip. (Use back of page for    |  |  |  |
|    | River: Tonan Creek   | Reach:                                 | Year: <u>200</u> 9             |  |  |  |
|    | River:   | Reach:                                 | Year:                          |  |  |  |
|    | River:   | Reach:                                 | Year:                          |  |  |  |
|    | River:   | Reach:                                 | Year:                          |  |  |  |
|    | River:   | Reach:                                 | Year:                          |  |  |  |
|    |  |  |                                |  |  |  |
| 6. | Have you participated in a   | Whitewater Boating Flow Stu            | idy in the past?               |  |  |  |
|    | Yes No   |  |                                |  |  |  |
|    | If yes, please provide the yadditional space if required                     |  | n study. (Use back of page for |  |  |  |
|    | Study 1 -Year: 2009  | River: Syula                           | Reach: 49 - Briceg.            |  |  |  |
|    | Study 2 -Year: 2009  | River: N. Yuba                         | Reach: Bullard Bark            |  |  |  |
|    | Study 3 - Year:  | River:                                 | Reach:                         |  |  |  |

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

| Type of Employment  | # Years |
|---|---------|
| Professional Guide: Recreational whitewater boating - Rafting   | 12      |
| Professional Guide: Recreational whitewater boating - Kayaking  | L       |
| Professional Guide: Expedition boating  | 1       |
| Instructor – Boating Skills   | Q       |
| Instructor – Instructor Certification   | 2-ALM   |
| Instructor – Swift Water Safety   | 3-      |
| Safety Support  | 3       |
| Filming   | 3       |
| Other   |         |
| I have taught Kayakarof Courses Cullforn on Canoe and Kayakarof Beer Course on South F. Am. Ryer and whitewater Kayakar for 11 years I has whitewater Kayakar for 11 years I has be so The last be so To you have any certifications for whitewater boating? I yes I f yes, please explain list certification: Swift water Ne | No      |
|   | ·       |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

**Background Information (Confidential\*)** 

Date: 5-21-2010

Name: Macy Burnham

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

 Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

| Skill Level |  |         |         |         | \\ |        |          |                        |
|-------------|--|---------|---------|---------|----|--------|----------|------------------------|
|             | Craft Type   | N/A     | 1       | П       | Ш  | IV     | ٧        | Years of<br>Experience |
|             | Kayak  |         |         |         |    |        | A        | 16                     |
|             | Closed deck canoe  |         |         |         |    |        |          |                        |
|             | Raft   |         |         |         |    |        |          |                        |
|             | Open canoe   |         |         |         |    |        |          |                        |
|             | Cataraft   |         |         |         |    |        |          |                        |
|             | Other (specify):   |         |         |         |    |        |          |                        |
|             | Other (specify):   |         |         |         |    |        |          |                        |
| 2.          | How many days do you participate in whitewater boating activities annually? <u>ℓ∂∂</u> +  3a. Are these typically single or multi-day trips?  ☐ Single ☐ Multi-day ☒ Both  |         |         |         |    |        |          |                        |
| 3.          | How would you best describe the "type Single-day recreational river trips Multi-day recreational river trips Both Multi-day and single-day recommendation of the Multi-day "expedition" river trips Single-day or multi-day "exploratory" single-day or multi-day exploratory" single-day or multi-day exploratory "exploratory" exploratory explora | reatior | nal riv | er trip |    | ng you | ı prefei | ?                      |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         | 罗              |
| Rubicon River              | Ellicott Bridge to Long Canyon           | 1              |
| Rubicon River              | Long Canyon to Ralston Afterbay          | 1              |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

| 5. | Have you participated in an  | y "exploratory" or "first-decer                                       | nt" river trips?           |                       |
|----|--|---|----------------------------|-----------------------|
|    | Yes No If yes, please provide the ye additional space if required. | ear, river, and reach for each  | trip. (Use back of         | page for              |
|    | Palme Creek River: Sen Joaque tributer Bear Creek                  | Reach: Headwales to  PETTIAL to  Reach: Interbry  Sox cayon 2  Reach: | Clorenlake Year: Boon Crak | 2009                  |
|    | River: Sendonean truly   | Reach: interfery  | Year:                      | 2007                  |
|    | River:   | Reach:  | Year:                      | 2008                  |
|    | River:   | Reach:  | Year:                      |                       |
|    | River:   | Reach:  | Year: _                    | ·<br>                 |
| 6. | X Yes ☐ No   | Whitewater Boating Flow Stu<br>ear, river, and reach for each         |                            | of page for           |
|    | additional space if required                                       | .)  |                            |                       |
|    | Study 1 -Year: 2009  | River: Foldyce Creck  | Reach: Fordyce (           | ake to lake spoulding |
|    | Study 2 -Year:   | River:  | Reach:                     |                       |
|    | Study 3 - Year:  | River:  | Reach:                     | ***                   |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

|    | Type of Employment  | # Years |
|----|---|---------|
|    | Professional Guide: Recreational whitewater boating - Rafting   |         |
|    | Professional Guide: Recreational whitewater boating - Kayaking  |         |
|    | Professional Guide: Expedition boating  |         |
|    | Instructor – Boating Skills   | 4       |
|    | Instructor – Instructor Certification   |         |
|    | Instructor – Swift Water Safety   |         |
|    | Safety Support  |         |
|    | Filming   |         |
|    | Other Protegraval Kayaker (From tyle/Exteen Rozing  | 12      |
|    | Rue Best Inshotor 2003-2004   |         |
|    |   |         |
| 8. | Do you have any certifications for whitewater boating?   Yes  Yes  If yes, please explain list certification: |         |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

Date: 5/21/10

Name: CHARLE CEUTER

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

 Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

| Skill Level  |  |  |  |            |            | V f        |                        |
|--|--|--|--|------------|------------|------------|------------------------|
| Craft Type   | N/A  | l  | П  | Ш          | ١٧         | ٧          | Years of<br>Experience |
| Kayak  |  |  |  |            |            | X          | 16                     |
| Closed deck canoe  |  |  |  |            |            |            |                        |
| Raft   |  |  |  |            |            |            |                        |
| Open canoe   |  |  |  |            |            |            |                        |
| Cataraft   |  |  |  |            |            |            |                        |
| Other (specify):   |  |  |  |            |            |            |                        |
| Other (specify):   |  |  |  |            |            |            |                        |
|  | multi-   | day tri  |  | ng act     | ivities    | annua      | lly? <u>200</u>        |
| How would you best describe the "type" of whitewater boating you prefer?  ☐ Single-day recreational river trips ☐ Multi-day recreational river trips ☐ Both Multi-day and single-day recreational river trips ☐ Multi-day "expedition" river trips ☐ Single-day or multi-day river trips |  |  |  |            |            |            |                        |
|  | Kayak  Closed deck canoe  Raft  Open canoe  Cataraft  Other (specify):  Other (specify):  How many days do you participate in 3a. Are these typically single or Single Multi-day  How would you best describe the "type Single-day recreational river trips Multi-day and single-day recreational river trips Multi-day "expedition" river trips | Kayak □   Closed deck canoe □   Raft □   Open canoe □   Cataraft □   Other (specify): □   Other (specify): □    How many days do you participate in white white ways are these typically single or multiful single   3a. Are these typically single or multiful single   □ Single □   □ Multi-day ☑   □ Single-day recreational river trips   □ Multi-day recreational river trips   ☑ Both Multi-day and single-day recreation   ☑ Multi-day "expedition" river trips | Kayak □   Closed deck canoe □   Raft □   Open canoe □   Cataraft □   Other (specify): □   Other (specify): □    How many days do you participate in whitewater  3a. Are these typically single or multi-day tri  □ Single □ Multi-day ☑ Both  How would you best describe the "type" of whitew □ Single-day recreational river trips □ Multi-day and single-day recreational river trips □ Multi-day "expedition" river trips | Craft Type | Craft Type | Craft Type | Craft Type             |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       | 444            |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         | 2              |
| Rubicon River              | Ellicott Bridge to Long Canyon           | 2              |
| Rubicon River              | Long Canyon to Ralston Afterbay          | 2              |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

| 5. | Have you participated in a                                      | ny "exploratory" or "first-dec | ent" river trips?                                    |
|----|---|--------------------------------|--|
|    | Yes No If yes, please provide the yadditional space if required |                                | ch trip. (Use back of page for                       |
|    | River: NENF Amon  | (OA Reach: NFNF                | Year: <u>2010</u>                                    |
|    | River: SF KING  | Reach: SF W                    | NGS Year: 2009                                       |
|    | River: FULDA CL.  | Reach: AMGRU                   | (A) Year: 2009                                       |
|    | River:  | Reach:                         | Year:  |
|    | River:  | Reach:                         | Year:  |
| 6. |   |                                | tudy in the past?<br>ch study. (Use back of page for |
|    | additional space if required                                    |                                | D  |
|    |   | River: Slab Creek              |  |
|    |   | River:                         |  |
|    | Study 3 - Year:   | River:                         | Reach:   |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

| Type of     | Employment   | # Ye |
|-------------|--|------|
| Profes      | sional Guide: Recreational whitewater boating - Rafting  |      |
| Profes      | ssional Guide: Recreational whitewater boating - Kayaking  |      |
| Profes      | ssional Guide: Expedition boating  |      |
| Instru      | ctor – Boating Skills  |      |
| Instru      | ctor – Instructor Certification  |      |
| Instru      | ctor – Swift Water Safety  |      |
| Safety      | Support  |      |
| Filmin      | g  | X    |
|             |  |      |
| f yes, ple  | PADDUNG  ase explain your experience (year, location, position held, etc.)  ase explain your experience (year, location, position held, etc.)  |      |
| If yes, ple | ase explain your experience (year, location, position held, et   |      |
| f yes, ple  | ase explain your experience (year, location, position held, et   | ent  |
| f yes, ple  | PADOUNCE  ase explain your experience (year, location, position held, etc.)  (ofcosion on produlor   filmer 2000 - freesome produlor   filmer 2000 - freesome produce   filmer 2000 - freesome produce | ent  |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

**Background Information (Confidential\*)** 

Date: 3/20/2010

Name: Darin Mª Quoid

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

 Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    |   |          |         | Skill L | .evel  |         |        |                        |
|----|---|----------|---------|---------|--------|---------|--------|------------------------|
|    | Craft Type  | N/A      | 1       | П       | Ш      | IV      | ٧      | Years of<br>Experience |
|    | Kayak   |          |         |         |        |         | Ŧ      | 8                      |
|    | Closed deck canoe   | 7        |         |         |        |         |        |                        |
|    | Raft  |          |         |         |        |         | ₹?     | 7                      |
|    | Open canoe  | ŧ.       |         |         |        |         |        |                        |
|    | Cataraft  | 4-       |         |         |        |         |        |                        |
|    | Other (specify):  | E        |         |         |        |         |        |                        |
|    | Other (specify):  | ÷        |         |         |        |         |        |                        |
| 2. | How many days do you participate in 3a. Are these typically single or ☐ Single ☐ Multi-day  |          | day tri |         | ng act | ivities | annua  | illy? <u>150+</u>      |
| 3. | How would you best describe the "typ  | oe" of v | whitev  | vater l | boatin | ıg you  | prefer | ?                      |
|    | ☐ Single-day recreational river trips ☐ Multi-day recreational river trips ☐ Both Multi-day and single-day rec ☐ Multi-day "expedition" river trips ☐ "Exploratory" single-day or multi-day |          |         | •       | S      |         |        |                        |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| Reach                                    | # of times run   |
|--|--|
| French Meadows Dam to Duncan Creek       |  |
| Duncan Creek to Middle Fork Interbay     |  |
| Middle Fork Interbay to Ralston Afterbay |  |
| Hell Hole Dam to Ellicott Bridge         |  |
| Ellicott Bridge to Long Canyon           | ·  |
| Long Canyon to Ralston Afterbay          |  |
|  |  |
|  |  |
|  | French Meadows Dam to Duncan Creek  Duncan Creek to Middle Fork Interbay  Middle Fork Interbay to Ralston Afterbay  Hell Hole Dam to Ellicott Bridge  Ellicott Bridge to Long Canyon |

| 5. | Have you participated in an  | y "exploratory" or "first-dece       | nt" river trips?              |
|----|--|--------------------------------------|-------------------------------|
|    | Yes No If yes, please provide the ye additional space if required. | ear, river, and reach for each<br>.) | n trip. (Use back of page for |
|    | River: NF NF American  | Reach: Upper                         | Year: <i>'⊍lo</i>             |
|    | River: Sikking India   | Reach: WA                            | Year: 2 <i>009</i>            |
|    | River: Teesta, India   | Reach: _ <i>ℳ</i> ≉                  | Year: zooa                    |
|    | River: Piatla, Mexico  | Reach: the good                      | Year: 2009                    |
|    | River: NF Kings  | Reach: 1600e Wish                    | , RecYear: 2009               |
|    |  |                                      |                               |
| 6. | Have you participated in a \                                       | Whitewater Boating Flow Stเ          | idy in the past?              |
|    | Yes □ No   |                                      |                               |
|    | If yes, please provide the yeadditional space if required          |                                      | study. (Use back of page for  |
|    | Study 1 -Year: 2009  | River: Sf Yula                       | Reach: Yuba Gap               |
|    | Study 2 -Year: 2007  | River: Lost Creek                    | Reach: WA                     |
|    | Study 3 - Year:  | River:                               | Reach:                        |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

| Type of Employment  | # Ye |
|---|------|
| Professional Guide: Recreational whitewater boating - Rafting               | フ    |
| Professional Guide: Recreational whitewater boating - Kayaki                | ng   |
| Professional Guide: Expedition boating                                      |      |
| Instructor – Boating Skills   |      |
| Instructor – Instructor Certification                                       |      |
| Instructor – Swift Water Safety   |      |
| Safety Support  |      |
| Filming   | 4    |
| 9   |      |
| Other   | ,    |
| Other  f yes, please explain your experience (year, location, position hele | ,    |
| Other   | ,    |
| Other   |      |
| Other   |      |
| Other  f yes, please explain your experience (year, location, position hele |      |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

Date: 5 2 | 10

Name: Thomas Model

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

1. Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    | Skill Level   |          |         |       |        |         | V        |                        |
|----|---|----------|---------|-------|--------|---------|----------|------------------------|
|    | Craft Type  | N/A      | 1       | П     | Ш      | IV      | ٧        | Years of<br>Experience |
|    | Kayak   |          |         |       |        |         | X        | 7                      |
|    | Closed deck canoe   |          |         |       |        |         |          |                        |
|    | Raft  |          |         |       |        |         |          |                        |
|    | Open canoe  |          |         |       |        |         |          |                        |
|    | Cataraft  |          |         |       |        |         |          |                        |
|    | Other (specify):  |          |         |       |        |         |          |                        |
|    | Other (specify):  |          |         |       |        |         |          |                        |
| 2. | How many days do you participate in  3a. Are these typically single or  Single Multi-day  | multi-   | day tri |       | ng act | ivities | annua    | ally? <u>160</u>       |
|    | _ onigio _ india day  |          |         |       |        |         |          |                        |
| 3. | How would you best describe the "type   | oe" of v | whitev  | vater | boatir | ng you  | ı prefei | r?                     |
|    | ☐ Single-day recreational river trips ☐ Multi-day recreational river trips ☐ Both Multi-day and single-day rec ☐ Multi-day "expedition" river trips ☐ "Exploratory" single-day or multi-day |          |         |       | s      |         |          |                        |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         |                |
| Rubicon River              | Ellicott Bridge to Long Canyon           |                |
| Rubicon River              | Long Canyon to Ralston Afterbay          |                |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

| 5. | Have you participated in any "e  Yes No  If yes, please provide the year additional space if required.)  |        |  |
|----|--|--------|--|
|    | River:   | Reach: | Year:  |
|    | Have you participated in a Whole Way Yes No If yes, please provide the year additional space if required.)  Study 1 - Year: 09 Rives Study 2 - Year: 06 Rives Rive | •      | study. (Use back of page for  Reach: Yuba gap 3 purdaus to see Reach: Reach: Page for purdaus to see Reach: Reach: Page for purdaus to see Reach: Reach: Page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for purdaus to see Reach: Page for each page for |

## Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

| Type of Employment  | # Ye           |
|---|----------------|
| Professional Guide: Recreational whitewater boating - Rafting           |                |
| Professional Guide: Recreational whitewater boating - Kayaking          |                |
| Professional Guide: Expedition boating                                  |                |
| Instructor – Boating Skills   |                |
| Instructor – Instructor Certification                                   |                |
| Instructor – Swift Water Safety   |                |
| Safety Support  |                |
| Filming   |                |
| Other   |                |
| f yes, please explain your experience (year, location, position held, e | etc.):         |
|   | etc.):         |
| Teom Dagger   | etc.):<br>/ No |
| Team Dugger  Do you have any certifications for whitewater boating?     |                |



#### APPENDIX C

Invitation to Participate In Boating Flow Studies

Middle Fork American River
Middle Fork Interbay to Ralston Afterbay
Invitation Letter and Attachments

#### **Mary Preuss**

From: PCWA MFP Relicensing [Relicensing@pcwa.net]

Monday, May 03, 2010 3:34 PM Sent:

To: jared.noceti@kayaker.com; philtheriver@hotmail.com; sligare@yahoo.com;

katiescott61@yahoo.com; brewercivil@comcast.net; peetlock@yahoo.com; Andy Fecko; Ben

Ransom; Dave Martinez; Sandra Walter-Perry; Mary Preuss; Julie Leimbach

Subject: PCWA/MFP - May 8, 2010 Invitation to Participate in Boating Flow Studies (FERC Project No.

2079)

Attachments: WW Boating Post Run Group Discussion Questions 4-30-10 mtz.doc; MFIB WW Flow Study

Boater Profile Form 4-30-10 mtz.doc; MFIB WW Single Flow Itinerary 4-30-10 mtz.doc; MFIB

WWSingle Flow Evaluation Form 4-30-10 mtz.doc; PCWA WW Flow Study Liability Waiver.doc

Dear Relicensing Participant -

Placer County Water Agency (PCWA) invites you to participate in a boating flow study on a reach of the Middle Fork American River Project between the Middle Fork Interbay Dam and Ralston Powerhouse. It is our understanding that Jared Noceti has already contacted you in regard to your participation in this study. The flow study will take place on May 8, 2010 and the Study team will meet at the Ralston Picnic area at 8:00am.

The purpose of the flow study is to refine previously developed boating flow information for this reach. Study team members will boat the reach at a flow of about 450-500 cfs... Upon completion of the run, the boating Study Team will complete a survey form and participate in a group discussion about the run. It is anticipated that the flow study will require a full day to complete.

Boating team members will provide their own boating gear, safety equipment, and transportation to the put-in for the run. PCWA will provide the shuttle logistics, food, and beverages.

It will be the responsibly of the boating team member to make a determination of their ability to boat the target run On water safety, and if needed, rescue, will be the responsibility of the boating study team. Prior to the flow study, each study team member will be asked to complete and return a Boater Profile Form and Release of Liability Form. Attached is the Boater Profile Form and Liability Waiver. If possible, please complete these forms prior to the Flow Study and provide them to PCWA on the day of the flow study. There will be additional copies available on the day of the Study if needed. Also attached is the proposed itinerary for the flow study, and for you review prior to the run, the Flow Evaluation Form, and Group Discussion Questions.

PCWA appreciates your participation in the Boating Flow Study. If you have any questions regarding this flow study, or need any additional information, please contact Dave Martinez at (916) 502-8523.

C-1

Thanks. Andrew Fecko Resource Planning Administrator (530) 823-4889

### Whitewater Boating Flow Study DRAFT POST-RUN GROUP DISCUSSION QUESTIONS

- 1. What would you rate the class of whitewater at this flow?
- 2. Do you consider this a single-day or multi-day run?
- 3. What type of boater would you expect to boat this reach?
- 4. What are the safety concerns on this run?
- 5. How would you expect the safety concerns to change at a lower flow?
- 6. How would you expect the safety concerns to change at a higher flow?
- 7. Are there specific locations you consider hazardous, beyond what would normally be encountered running a river of this difficulty? [use map to locate]
- 8. Are there specific locations that required extensive portaging? [use map to locate]
- 9. Did you experience a change in flow during the run, and if so, how did that affect boating conditions? [refer back to "upper" and "lower" section breaks]
- 10. How would you expect boating conditions to change at a lower flow?
- 11. How would you expect boating conditions to change at a higher flow?
- 12. What is the minimum flow you would boat this run?
- 13. What are the main reasons that you think you could not boat this reach below the minimum flow you identified?
- 14. What is the maximum flow you would boat this run?
- 15. What are the main reasons that you think you could not boat this reach above the maximum flow you identified?

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

| Background Information (Confidential*) |                     |
|--|---------------------|
| Date:                                  |                     |
| Name:                                  |                     |
| *Age:                                  | Gender: Male Female |
| *Address:                              |                     |
| City:                                  |                     |
| State:                                 | Zip Code:           |
| *Phone Number:                         | *FAX Number:        |
|  |                     |

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

August 2010 C-3

\*Email address: \_\_\_\_\_

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### DRAFT BOATER PROFILE FORM

1. Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    | Skill Level   |         |          |         |        |         |        |                        |
|----|---|---------|----------|---------|--------|---------|--------|------------------------|
|    | Craft Type  | N/A     | 1        | П       | Ш      | IV      | V      | Years of<br>Experience |
|    | Kayak   |         |          |         |        |         |        |                        |
|    | Closed deck canoe   |         |          |         |        |         |        |                        |
|    | Raft  |         |          |         |        |         |        |                        |
|    | Open canoe  |         |          |         |        |         |        |                        |
|    | Cataraft  |         |          |         |        |         |        |                        |
|    | Other (specify):  |         |          |         |        |         |        |                        |
|    | Other (specify):  |         |          |         |        |         |        |                        |
| 2. | How many days do you participate in  3a. Are these typically single or  Single Multi-day  | multi-  |          |         | ng act | ivities | annua  | ally?                  |
| 3. | How would you best describe the "type"  Single-day recreational river trips  Multi-day recreational river trips  Both Multi-day and single-day rec  Multi-day "expedition" river trips  "Exploratory" single-day or multi-day | reatior | nal rive | er trip |        | g you   | prefer | ?                      |

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### **DRAFT BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         |                |
| Rubicon River              | Ellicott Bridge to Long Canyon           |                |
| Rubicon River              | Long Canyon to Ralston Afterbay          |                |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

| 5. | Have you participated in a                                       | ny "exploratory" or "first-dece        | nt" river trips?              |
|----|--|--|-------------------------------|
|    | Yes No  If yes, please provide the yadditional space if required | vear, river, and reach for each<br>l.) | n trip. (Use back of page for |
|    | River:   | Reach:                                 | Year:                         |
| 6. | ☐ Yes ☐ No   |  | ndy in the past?              |
|    | Study 1 -Year:   | River:                                 | Reach:                        |
|    | Study 2 -Year:   | River:                                 | Reach:                        |
|    | Study 3 - Year:  | River:                                 | Reach:                        |

## Middle Fork American River – MF Interbay to Ralston Afterbay Whitewater Boating Flow Study

#### **DRAFT BOATER PROFILE FORM**

|    | Type of Employment   | #Ye |
|----|--|-----|
|    | Professional Guide: Recreational whitewater boating - Rafting                  |     |
|    | Professional Guide: Recreational whitewater boating - Kayaking                 |     |
|    | Professional Guide: Expedition boating   |     |
|    | Instructor – Boating Skills  |     |
|    | Instructor – Instructor Certification  |     |
|    | Instructor – Swift Water Safety  |     |
|    | Safety Support   |     |
|    | Filming  |     |
| _  |  |     |
| If | Other yes, please explain your experience (year, location, position held, etc. | ):  |
| If |  | ):  |
|    |  |     |
| D  | yes, please explain your experience (year, location, position held, etc.       |     |

## Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay – May 8, 2010

#### **ITINERARY**

| 8:00 AM            | Study Team Meets at Ralston Picnic Area   |
|--------------------|---|
| 8:00 – 8:45 AM     | Complete Boater Profile forms and Liability Waivers (if needed) and provide Boating Team with Flow Study overview |
| 8:45 – 9:00 AM     | Load boats and gear – depart for put-in   |
| 9:45 AM            | Arrive at put-in  |
| 9:45 – 10:30 AM    | Unload gear – hike to put-in below MF Interbay Dam  |
| 10:30 AM           | Put-in  |
| 10:30 AM – 4:00 PM | On-water boating time is variable and remainder of itinerary will be adjusted accordingly                         |
| 4:00 PM            | Take-out (bridge crossing on Middle Fork American River) and transport back to Ralston Picnic area                |
| 4:15 – 5:30 PM     | Complete Flow Evaluation Forms and Groups Discussion  |

#### **PLACER COUNTY WATER AGENCY**

## Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Na | ame:  | Date:   |
|----|---|---|
|    |   |   |
|    |   | Put in time:  |
| Та | ake out location:   | Take out time:  |
| 1. | What type of craft did you use for this                     | s run?  |
| 2. | What type(s) of watercraft would be swould be appropriate). | suitable for this reach at today's flow? (Circle all that |
|    | a. Kayak  | f. Cataraft   |
|    | b. Closed deck canoe  | g. Inflatable kayak                                       |
|    | c. Raft   | h. Other:   |
|    | e. Open canoe   |   |
| 3. | Was access from the parking area to  a. Yes  b. No          | the river at the put-in adequate?                         |
|    | If No, please explain:                                      |   |
|    |   |   |
| 4. | Was egress from the river to the park  a. Yes   b. No       | king area at the take-out adequate?                       |
|    | If No, please explain:                                      |   |
|    |   |   |
| 5. | Would you typically boat this reach as                      | s a single or multi-day trip?                             |
|    | a. Single   |   |
|    | b. Multi-day $\square$                                      |   |
|    | c. Both   |   |

#### **PLACER COUNTY WATER AGENCY**

## Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| 6. | If this reach was boated as a two overnight camping?               | o-day run, did you notice any sites that would be suitable for                          |
|----|--|---|
|    | a. N/A   |   |
|    | Location   | Description   |
|    | 1.   |   |
|    | 2.   |   |
|    | 3.   |   |
|    | 4.   |   |
| 7. | Estimate the number of times you for portaging and estimate the to | ou stopped and got out of your boat for breaks, scouting, or otal amount of time spent. |
|    | Number of stops for breaks   | Total minutes out of boat   |
|    | Number of stops for scouting                                       | Total minutes out of boat   |
|    | Number of stops for portaging                                      | Total minutes out of boat   |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                      |      | Port                  | age Difficulty          |                        | Requires                           | Portage<br>Route | Estimated       |
|----------------------|------|-----------------------|-------------------------|------------------------|------------------------------------|------------------|-----------------|
| Location Description | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River           | Portage<br>Time |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard |
|----------------------|---------------|
| 1.                   |               |
|                      |               |
|                      |               |
| 2.                   |               |
|                      |               |
| 3.                   |               |
| J.                   |               |
|                      |               |
| 4.                   |               |
|                      |               |
|                      |               |

#### **PLACER COUNTY WATER AGENCY** Middle Fork American River Project Relicensing **Whitewater Boating Flow Study** Middle Fork American River – MF Interbay to Ralston Afterbay

## Single Flow Evaluation Form

| 10. How would you rate the whitewater diffici | ulty of this run? (Use American Whitewater's |
|---|--|
| International Scale of Whitewater Difficul    | ty that ranges from Class I to Class VI)     |

11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |        |            | Rating  |            |         |
|---|--------|------------|---------|------------|---------|
| Characteristic                                | Accep  | table      | Neutral | Unacce     | eptable |
|   | Highly | Moderately |         | Moderately | Highly  |
| Boatability                                   | 2      | 1          | 0       | -1         | -2      |
| Availability of challenging technical boating | 2      | 1          | 0       | -1         | -2      |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | -2      |
| Availability of whitewater "play areas"       | 2      | 1          | 0       | -1         | -2      |
| Overall whitewater challenge                  | 2      | 1          | 0       | -1         | -2      |
| Safety  | 2      | 1          | 0       | -1         | -2      |
| Length of run                                 | 2      | 1          | 0       | -1         | -2      |
| Rate of travel                                | 2      | 1          | 0       | -1         | -2      |
| Number of portages                            | 2      | 1          | 0       | -1         | -2      |

12. Please rate your overall satisfaction with today's flow.

|        |            | Rating  |            |           |
|--------|------------|---------|------------|-----------|
| Sa     | tisfied    | Neutral | Un         | satisfied |
| Highly | Moderately | Neutrai | Moderately | Highly    |
| 2      | 1          | 0       | -1         | -2        |

| Please explain your rating: |  |  |
|-----------------------------|--|--|
| -                           |  |  |
|                             |  |  |

#### **PLACER COUNTY WATER AGENCY**

## Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

|   |  | Flow Evaluatio        |                      |                  |          |                    |
|---|--|-----------------------|----------------------|------------------|----------|--------------------|
| Ipper Part of Read                                      | ch (Put-in to  |                       |                      |                  |          |                    |
| 3a. In general, wo<br>(Check one)                       | uld you prefer a flo   | w that was higher,    | lower, or            | about t          | he san   | ne as this fl      |
| Much Lower<br>Flow                                      | Slightly Lower<br>Flow   | About the Same Flow   | Slightly<br>Flo      |                  | Мι       | uch Higher<br>Flow |
|   |  |                       |                      | ]                |          |                    |
| Please explain:   |  |                       |                      |                  |          |                    |
|   | y's study and your<br>boating this part of   |                       |                      | y a rang<br>□ No | e of flo | ows that wo        |
|   |  |                       |                      |                  | no no    | ows that wo        |
| be suitable for   | boating this part of   | f the reach. ☐ Ye     | es                   | □ No             |          |                    |
| be suitable for  Minimum Accept return to boat on to    | able: The lowest flow a his run.   | f the reach. Ye       | willing to           | □ No             |          |                    |
| Minimum Accept return to boat on to for your craft type | able: The lowest flow a his run.  v that creates the best of and skill level.  table: The highest flow | at which you would be | willing to teristics | □ No             |          |                    |

#### **PLACER COUNTY WATER AGENCY**

## Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Lower Part of Reach (  |  |  |  |   | to Take-out   |  |  |
|--|--|--|--|---|---|--|--|
| In general, wou<br>(Check one)   | uld you prefer a flo   | w that was higher,   | lower, or  | about t   | he sar  | me as this flow?   |  |
| Much Lower<br>Flow   | Slightly Lower<br>Flow   | About the Same Flow  | Slightly Higher<br>Flow  |   | М   | Much Higher<br>Flow  |  |
|  |  |  |  |   |   |  |  |
| Based on toda  |  |  |  | y a ranç<br>□ No  | ge of fl  | ows that would   |  |
|  |  |  |  | yes   | no  | Flow (cfs)   |  |
|  |  | at which you would be  | willing to   |   |   |  |  |
|  |  | combination of charact   | eristics   |   |   |  |  |
| <b>Maximum Acceptable</b> : The highest flow at which you would be willing to return to boat this run. |  |  |  |   |   |  |  |
| Please provide   | any additional cor   | mments about the   | reach at   | this flow   | <i>'</i> .  |  |  |
|  | In general, work (Check one)  Much Lower Flow  Blease explain:  Based on toda be suitable for  Minimum Acceptareturn to boat on the Optimal: The flow for your craft type at Maximum Accept to return to boat the optimal to boat the optimal to return the optimal to return to boat the optimal to return the optimal the optimal to return the optimal the optima | In general, would you prefer a flow (Check one)  Much Lower Flow Flow  Based on today's study and your be suitable for boating this part of return to boat on this run.  Optimal: The flow that creates the best of for your craft type and skill level.  Maximum Acceptable: The highest flow to return to boat this run. | In general, would you prefer a flow that was higher, (Check one)  Much Lower Flow Flow Flow  Flow Flow  Glease explain:  Based on today's study and your experience, can y be suitable for boating this part of the reach. Yes  Minimum Acceptable: The lowest flow at which you would be return to boat on this run.  Optimal: The flow that creates the best combination of charact for your craft type and skill level.  Maximum Acceptable: The highest flow at which you would be to return to boat this run. | In general, would you prefer a flow that was higher, lower, or (Check one)  Much Lower Slightly Lower About the Same Slightly Flow Flow Flow Flow Flow Flow Flow Flow | In general, would you prefer a flow that was higher, lower, or about to (Check one)  Much Lower Flow Flow Flow Flow Flow  Based on today's study and your experience, can you identify a range be suitable for boating this part of the reach. Yes No  Wes  Minimum Acceptable: The lowest flow at which you would be willing to return to boat on this run.  Optimal: The flow that creates the best combination of characteristics for your craft type and skill level.  Maximum Acceptable: The highest flow at which you would be willing to return to boat this run. | In general, would you prefer a flow that was higher, lower, or about the sar (Check one)  Much Lower Flow About the Same Slightly Higher Flow Flow Flow Flow Flow Flow  Based on today's study and your experience, can you identify a range of flow be suitable for boating this part of the reach. Yes No  Minimum Acceptable: The lowest flow at which you would be willing to return to boat on this run.  Optimal: The flow that creates the best combination of characteristics for your craft type and skill level.  Maximum Acceptable: The highest flow at which you would be willing |  |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Evaluation Study Assumption of Risk and General Release of Liability

| I,, recognize that the whitewater evaluation study                                   |
|--|
| conducted by Placer County Water Agency, in which I am about to participate, is      |
| a rigorous activity that may be physically and mentally stressful and may            |
| aggravate existing physical or mental conditions or cause new ones. I recognize      |
| that whitewater activities, such as boating, rafting, kayaking, and swimming, in     |
| which I am going to participate, are dangerous and may include damage to             |
| personal property, serious physical injury, or death arising from a variety of       |
| hazards and unavoidable risks, including, but not limited to, rocks, trees, powerful |
| waves, waterfalls, hydraulics, ejection from a water craft, and other hazards, and   |
| difficulty or improbability of rescue. I acknowledge that the hazards associated     |
| with whitewater activities may be compounded. I also understand that significant     |
| variations in river flow may alter the natural character of the river, and that      |
| access to the study sections of this river will include transportation along narrow  |
| roadways which may involve other potential hazards.                                  |
|  |

- 2. As a participant in this whitewater evaluation study, I recognize:
  - a. that my participation is voluntary and I may discontinue participation at any time of my choosing;
  - b. that I am a joint venturer with the other trip participants;
  - that I am personally responsible for determining whether I have the skill and expertise to safely navigate the river segments in this study, which may include class IV, V and V+ rapids;
  - d. that I am solely responsible for selecting equipment suitable for use during the whitewater evaluation study;
  - e. that no other person or entity associated with this whitewater evaluation study
    has any obligation to attempt to rescue or assist me and that any attempted
    rescue or assistance may exacerbate my condition and cause injury or death;
    and
  - f. that I have no obligation to attempt to rescue or assist any other person, and that any such attempt on my part may result in injury or death to myself or the other person.
- 3. I understand and expressly assume all the dangers and risks incident to the whitewater evaluation study and release all claims including, but not limited to, property damage, personal injury or death, whether caused by negligence,

breach of contract or otherwise, which I may have against Placer County Water Agency and its affiliates, officers, directors, employees, agents, assigns or successors or any other company, organization, person or entity that may be involved in facilitating this whitewater evaluation study

- 4. I represent that:
  - a. I am 18 years of age or older;
  - b. I am signing this release and waiver voluntarily;
  - c. I have no physical or emotional problems, nor any history thereof, which will impair my ability to participate in the activities of the proposed whitewater evaluation study.
- 5. I recognize that neither Placer County Water Agency nor anyone else involved with this study is providing liability, health, or other insurance in connection with this whitewater evaluation study. I agree to assume all financial responsibility for any medical, rescue or other expenses that I may incur.
- 6. I assume full responsibility for, and agree to defend, hold harmless and indemnify Placer County Water Agency, its affiliates, its officers, directors, employees, agents, successors and assigns against, any claims, losses or judgments that may arise from any damage or injury either to me or my personal property or that I may cause to others or their personal property while participating in this whitewater evaluation study.
- 7. This waiver shall be binding upon me, my heirs, executors and administrators.

| ed:     | <del></del>  |
|---------|--------------|
| (Print) | (Print name) |
|         |              |
|         | Signature    |
|         | Address:     |
|         |              |
|         |              |

Middle Fork American River
French Meadows Reservoir to Middle Fork Interbay
Invitation Letter and Attachments

#### **Mary Preuss**

From: PCWA MFP Relicensing [Relicensing@pcwa.net]

**Sent:** Monday, May 17, 2010 12:34 PM

To: jared.noceti@kayaker.com; charliecenter@hotmail.com; D\_mcquoid@hotmail.com;

macykayak@hotmail.com; Julie Leimbach; Ben Ransom; Andy Fecko; Dave Martinez; Mary

Preuss; kwood4life@yahoo.com

**Subject:** PCWA/MFP - May 22, 2010 Invitation to Participate in Boating Flow Studies (FERC Project No.

2079)

Attachments: FM WW Single Flow Itinerary 5-14-10 mtz.doc; FM WWSingle Flow Evaluation Form 5-14-10

mtz.doc; WW Boating Post Run Group Discussion Questions 5-14-10 mtz.doc; FM WW Flow

Study Boater Profile Form 5-14-10 mtz.doc; PCWA WW Flow Study Liability Waiver.doc

Dear Relicensing Participant -

Placer County Water Agency (PCWA) invites you to participate in a boating flow study on a reach of the Middle Fork American River Project between French Meadow Dam and the Middle Fork Interbay. It is our understanding that Jared Noceti has already contacted you in regard to your participation in this study. The flow study will take place on May 22, 2010 and the Study team will meet at the Middle Fork Interbay on May 21 at 4:00pm.

The purpose of the flow study is to develop boating flow information on the upper reach of the river, and, refine previously developed boating flow information on the lower end of the reach. Study team members will boat the reach at a flow of about 200 cfs (at the put-in). In order to maximize the time available to boat the run, the Study Team will be at the put-in on Friday afternoon (May 21), and has a target put-in time of 7:00am on Saturday (May 22). Upon completion of the run, the boating Study Team will fill out survey forms and participate in a group discussion about the run.

Boating team members will provide their own boating gear, safety equipment, and transportation to the take-in for the run. PCWA will provide the shuttle logistics, pre and post run food and beverages.

It will be the responsibly of the boating team member to make a determination of their ability to boat the target run On water safety, and if needed, rescue, will be the responsibility of the boating study team. Prior to the flow study, each study team member will be asked to complete and return a Boater Profile Form and Release of Liability Form. Attached is the Boater Profile Form and Liability Waiver. If possible, please complete these forms prior to the Flow Study and provide them to PCWA on the day of the flow study. There will be additional copies available on the day of the Study if needed. Also attached is the proposed itinerary for the flow study and for you review prior to the run, the Flow Evaluation Form, and Group Discussion Questions. PCWA appreciates your participation in the Boating Flow Study. If you have any questions regarding this flow study, or need any additional information, please contact Dave Martinez at (916) 502-8523.

Thanks,

Andrew Fecko Resource Planning Administrator (530) 823-4889

#### **Mary Preuss**

From: PCWA MFP Relicensing [Relicensing@pcwa.net]

**Sent:** Monday, May 17, 2010 12:34 PM

To: jared.noceti@kayaker.com; charliecenter@hotmail.com; D\_mcquoid@hotmail.com;

macykayak@hotmail.com; Julie Leimbach; Ben Ransom; Andy Fecko; Dave Martinez; Mary

Preuss; kwood4life@yahoo.com

**Subject:** PCWA/MFP - May 22, 2010 Invitation to Participate in Boating Flow Studies (FERC Project No.

2079)

**Attachments:** FM WW Single Flow Itinerary 5-14-10 mtz.doc; FM WWSingle Flow Evaluation Form 5-14-10

mtz.doc; WW Boating Post Run Group Discussion Questions 5-14-10 mtz.doc; FM WW Flow

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It will be the responsibly of the boating team member to make a determination of their ability to boat the target run. On water safety, and if needed, rescue, will be the responsibility of the boating study team. Prior to the flow study, each study team member will be asked to complete and return a Boater Profile Form and Release of Liability Form. Attached is the Boater Profile Form and Liability Waiver. If possible, please complete these forms prior to the Flow Study and provide them to PCWA on the day of the flow study. There will be additional copies available on the day of the Study if needed. Also attached is the proposed itinerary for the flow study and for you review prior to the run, the Flow Evaluation Form, and Group Discussion Questions. PCWA appreciates your participation in the Boating Flow Study. If you have any questions regarding this flow study, or need any additional information, please contact Dave Martinez at (916) 502-8523.

Thanks,

Andrew Fecko Resource Planning Administrator (530) 823-4889

### Whitewater Boating Flow Study POST-RUN GROUP DISCUSSION QUESTIONS

- 1. What would you rate the class of whitewater at this flow?
- 2. Do you consider this a single-day or multi-day run?
- 3. What type of boater would you expect to boat this reach?
- 4. What are the safety concerns on this run?
- 5. How would you expect the safety concerns to change at a lower flow?
- 6. How would you expect the safety concerns to change at a higher flow?
- 7. Are there specific locations you consider hazardous, beyond what would normally be encountered running a river of this difficulty? [use map to locate]
- 8. Are there specific locations that required extensive portaging? [use map to locate]
- 9. Did you experience a change in flow during the run, and if so, how did that affect boating conditions? [refer back to "upper" and "lower" section breaks]
- 10. How would you expect boating conditions to change at a lower flow?
- 11. How would you expect boating conditions to change at a higher flow?
- 12. What is the minimum flow you would boat this run?
- 13. What are the main reasons that you think you could not boat this reach below the minimum flow you identified?
- 14. What is the maximum flow you would boat this run?
- 15. What are the main reasons that you think you could not boat this reach above the maximum flow you identified?

### Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

# Background Information (Confidential\*) Date: \_\_\_\_\_\_ Name: \_\_\_\_\_\_ \*Age: \_\_\_\_\_ Gender: \_\_\_ Male \_\_\_ Female \*Address: \_\_\_\_\_\_ City: \_\_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_\_ \*Phone Number: \_\_\_\_\_\_ \*FAX Number: \_\_\_\_\_\_

#### \*Confidentiality Statement

Background and contact information (name, address, e-mail, etc.) is considered confidential and will not be disclosed to any parties as a result of this study.

August 2010 C-19

\*Email address: \_\_\_\_\_

### Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

 Please identify your skill level for the following craft types by checking the appropriate box (based on the International Whitewater Scale difficulty) for each craft type listed. Check the box under N/A if you have no experience with a craft type. Give your years of experience in the last column.

|    |   |         |          | Skill L  | evel   |         |        | V                      |
|----|---|---------|----------|----------|--------|---------|--------|------------------------|
|    | Craft Type  | N/A     | 1        | П        | Ш      | IV      | V      | Years of<br>Experience |
|    | Kayak   |         |          |          |        |         |        |                        |
|    | Closed deck canoe   |         |          |          |        |         |        |                        |
|    | Raft  |         |          |          |        |         |        |                        |
|    | Open canoe  |         |          |          |        |         |        |                        |
|    | Cataraft  |         |          |          |        |         |        |                        |
|    | Other (specify):  |         |          |          |        |         |        |                        |
|    | Other (specify):  |         |          |          |        |         |        |                        |
| 2. | How many days do you participate in  3a. Are these typically single or  Single Multi-day  | multi-d |          |          | ng act | ivities | annua  | illy?                  |
| 3. | How would you best describe the "type"  Single-day recreational river trips  Multi-day recreational river trips  Both Multi-day and single-day reception in the modern of | reatior | ıal rive | er trip: |        | g you   | prefer | ?                      |

### Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

4. Indicate the number of times that you have boated on the following rivers.

| River                      | Reach                                    | # of times run |
|----------------------------|--|----------------|
| Middle Fork American River | French Meadows Dam to Duncan Creek       |                |
| Middle Fork American River | Duncan Creek to Middle Fork Interbay     |                |
| Middle Fork American River | Middle Fork Interbay to Ralston Afterbay |                |
| Rubicon River              | Hell Hole Dam to Ellicott Bridge         |                |
| Rubicon River              | Ellicott Bridge to Long Canyon           |                |
| Rubicon River              | Long Canyon to Ralston Afterbay          |                |
| Duncan Creek               |  |                |
| Long Canyon Creek          |  |                |

| 5. | Have you participated in any "exploratory" or "first-decent" river trips? |  |  |  |  |  |
|----|---|--|--|--|--|--|
|    | Yes No  If yes, please provide the yadditional space if required          | year, river, and reach for eacl<br>d.) | h trip. (Use back of page for                      |  |  |  |
|    | River:  | Reach:                                 | Year:  |  |  |  |
|    | River:  | Reach:                                 | Year:  |  |  |  |
|    | River:  | Reach:                                 | Year:  |  |  |  |
|    | River:  | Reach:                                 | Year:  |  |  |  |
|    | River:  | Reach:                                 | Year:  |  |  |  |
| 6. | ☐ Yes ☐ No  |  | udy in the past?<br>h study. (Use back of page for |  |  |  |
|    | Study 1 -Year:  | River:                                 | Reach:   |  |  |  |
|    | Study 2 -Year:  | River:                                 | Reach:   |  |  |  |
|    | Study 3 - Year:   | River:                                 | Reach:   |  |  |  |

### Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay – May 22, 2010

#### **ITINERARY**

#### May 21

4:00 PM Study Team meets at Middle Fork Interbay

4:00 – 4:30 PM Complete Boater Profile forms and Liability Waivers (if needed) and provide Boating Team with Flow Study overview

4:30 – 4:45 PM Load boats and gear depart for put-in

5:45 PM Arrive at French Meadows Reservoir

#### **May 22**

6:30 AM Unload gear hike to put-in below French Meadows Dam

7:00 AM Put-in

7:00 AM – 6:00 PM On-water boating time is variable and remainder of itinerary will

be adjusted accordingly

6:00 PM Take-out (Middle Fork Interbay)

6:30 – 7:30 PM Complete Flow Evaluation Forms and Group Discussion

### Middle Fork American River – French Meadows Dam to MF Interbay Whitewater Boating Flow Study

#### **BOATER PROFILE FORM**

| Ту    | /pe of Employment  | #Ye |
|-------|--|-----|
|       | Professional Guide: Recreational whitewater boating - Rafting          |     |
|       | Professional Guide: Recreational whitewater boating - Kayaking         |     |
|       | Professional Guide: Expedition boating                                 |     |
|       | Instructor – Boating Skills  |     |
|       | Instructor – Instructor Certification                                  |     |
|       | Instructor – Swift Water Safety  |     |
|       | Safety Support   |     |
|       | Filming  |     |
|       | Other  |     |
| lf ye | es, please explain your experience (year, location, position held, etc | .): |
| If ye |  | .): |
| Do    | es, please explain your experience (year, location, position held, etc |     |
| Do    | es, please explain your experience (year, location, position held, etc |     |
| Do :  | es, please explain your experience (year, location, position held, etc |     |
| Do    | es, please explain your experience (year, location, position held, etc |     |

### Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay

### Single Flow Evaluation Form

|                  |  | Date:  |
|------------------|--|--|
| /er:             |  |  |
| t in location:   |  | Put in time:   |
| ke out location  | :  | Take out time:   |
| What type of     | craft did you  | se for this run?   |
|                  |  | would be suitable for this reach at today's flow? (Circle all that   |
| a. Kayak         | (  | f. Cataraft  |
| b. Close         | d deck canoe   | g. Inflatable kayak  |
| c. Raft          |  | h. Other:  |
| e. Open          | canoe  |  |
| Was access a. b. | from the part  | ng area to the river at the put-in adequate?   |
|                  | ·<br>  |  |
|                  |  | o the parking area at the take-out adequate?   |
| If No, please    | explain:   |  |
|                  |  |  |
| Would you ty     | pically boat   | s reach as a single or multi-day trip?   |
| a.               | Single   |  |
| b.               | Multi-day  |  |
|                  | Both   |  |
|                  | t in location: ke out location What type of What type(s) would be app a. Kayak b. Close c. Raft e. Open  Was access a. b.  If No, please  Was egress a. b.  If No, please  Would you ty a. | t in location:  ke out location:  What type of craft did you u  What type(s) of watercraft v  would be appropriate).  a. Kayak  b. Closed deck canoe  c. Raft  e. Open canoe  Was access from the parkin  a. Yes  b. No  If No, please explain:  Was egress from the river to  a. Yes  b. No  U  If No, please explain:  Would you typically boat thi  a. Single  b. Multi-day |

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| 6. | If this reach was boated as a tw overnight camping? | o-day run, did you notice any sites that would be suitable for |
|----|---|--|
|    | a. N/A  |  |
|    | Location  | Description  |
|    | 1.  |  |
|    | 2.  |  |
|    | 3.  |  |
|    | 4.  |  |
| 7. |   | ou stopped and got out of your boat for breaks, scouting, or   |
|    | for portaging and estimate the to                   |  |
|    | Number of stops for breaks                          | Total minutes out of boat                                      |
|    | Number of stops for scouting                        | Total minutes out of boat                                      |
|    | Number of stops for portaging                       | Total minutes out of boat                                      |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                      |      | Port                  | age Difficulty          |                        | Requires                           | Portage<br>Route            | Estimated       |
|----------------------|------|-----------------------|-------------------------|------------------------|------------------------------------|-----------------------------|-----------------|
| Location Description | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River<br>Right or<br>Left) | Portage<br>Time |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard |
|----------------------|---------------|
| 1.                   |               |
|                      |               |
|                      |               |
| 2.                   |               |
|                      |               |
|                      |               |
| 3.                   |               |
|                      |               |
|                      |               |
| 4.                   |               |
|                      |               |
|                      |               |
|                      |               |

#### **PLACER COUNTY WATER AGENCY** Middle Fork American River Project Relicensing **Whitewater Boating Flow Study**

#### Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| 10. How would you rate the whitewater diffici | ulty of this run? (Use American Whitewater's |
|---|--|
| International Scale of Whitewater Difficul    | ty that ranges from Class I to Class VI)     |

11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   | Rating |            |         |            |         |
|---|--------|------------|---------|------------|---------|
| Characteristic                                | Accep  | table      | Neutral | Unacce     | eptable |
|   | Highly | Moderately |         | Moderately | Highly  |
| Boatability                                   | 2      | 1          | 0       | -1         | -2      |
| Availability of challenging technical boating | 2      | 1          | 0       | -1         | -2      |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | -2      |
| Availability of whitewater "play areas"       | 2      | 1          | 0       | -1         | -2      |
| Overall whitewater challenge                  | 2      | 1          | 0       | -1         | -2      |
| Safety  | 2      | 1          | 0       | -1         | -2      |
| Length of run                                 | 2      | 1          | 0       | -1         | -2      |
| Rate of travel                                | 2      | 1          | 0       | -1         | -2      |
| Number of portages                            | 2      | 1          | 0       | -1         | -2      |

12. Please rate your overall satisfaction with today's flow.

| Rating |            |         |            |           |
|--------|------------|---------|------------|-----------|
| Sa     | tisfied    | Neutral | Un         | satisfied |
| Highly | Moderately | Neutrai | Moderately | Highly    |
| 2      | 1          | 0       | -1         | -2        |

| Please explain your rating: |  |  |
|-----------------------------|--|--|
| -                           |  |  |
|                             |  |  |

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| 5                              | ingle Flow Evaluation Form |
|--------------------------------|----------------------------|
| Upper Part of Reach (Put-in to |                            |

| Much Lower<br>Flow   | Slightly Lower<br>Flow   | About the Same<br>Flow | Slightly Hig<br>Flow      | gher                | Mι       | uch Higher<br>Flow |
|--|--|------------------------|---------------------------|---------------------|----------|--------------------|
|  |  |                        |                           |                     |          |                    |
| D  |  |                        |                           |                     |          |                    |
| Please explain:  |  |                        |                           |                     |          |                    |
|  |  |                        |                           |                     |          |                    |
|  |  |                        |                           |                     |          |                    |
|  |  | experience, can you    | -                         | _                   | e of flo | ows that wo        |
| be suitable fo   | r boating this part of   | f the reach.  Yes      | <u> </u>                  | rang<br>  No<br>/es | e of flo | ows that wo        |
| be suitable fo   | r boating this part of   |                        | <u> </u>                  | No                  | Ī        |                    |
| be suitable fo   | table: The lowest flow a this run.   | f the reach.  Yes      | Illing to                 | No                  | Ī        |                    |
| Minimum Accept return to boat on Optimal: The flot for your craft type   | table: The lowest flow a this run. w that creates the best of and skill level. otable: The highest flow          | f the reach. Yes       | Illing to                 | No                  | Ī        |                    |
| Minimum Accept return to boat on Optimal: The flor for your craft type Maximum Acceptain Maximum Acceptain to the suitable for the suitable for your craft type Maximum Acceptain to the suitable for your craft type Maximum Acceptain to the suitable for your craft type for your craft typ | table: The lowest flow a this run. w that creates the best of and skill level. otable: The highest flow          | f the reach. Yes       | Illing to                 | No                  | Ī        |                    |
| Minimum Accepted return to boat on Optimal: The float for your craft type Maximum Accepto return to boat of the return to boat of the second return return to boat of the second return return to boat of the second return | table: The lowest flow a this run. w that creates the best of and skill level. otable: The highest flow his run. | f the reach. Yes       | Illing to sistics willing | /es                 | no       |                    |

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Lower Part of Re                                   | ach (   |                       |                 |                  |            | to Take-out        |
|--|---|-----------------------|-----------------|------------------|------------|--------------------|
| 13b. In general, v<br>(Check one)                  | vould you prefer a flo  | w that was higher,    | lower, or       | about t          | he sar     | ne as this flow?   |
| Much Lower<br>Flow                                 | Slightly Lower<br>Flow  | About the Same Flow   | Slightly<br>Flo |                  | M          | uch Higher<br>Flow |
|  |   |                       |                 | ]                |            |                    |
|  | :<br>day's study and your<br>for boating this part of                   |                       |                 | y a rang<br>∐ No | ge of fl   | ows that would     |
|  |   |                       |                 | yes              | no         | Flow (cfs)         |
| Minimum Acce<br>return to boat o                   | eptable: The lowest flow an this run.                                   | at which you would be | willing to      |                  |            |                    |
|  | low that creates the best ope and skill level.                          | combination of charac | teristics       |                  |            |                    |
| Maximum Acc<br>to return to boa                    | eptable: The highest flow t this run.                                   | at which you would b  | e willing       |                  |            |                    |
| 15b. Please prov                                   | ide any additional cor  | mments about the      | reach at t      | his flow         | ' <b>.</b> |                    |
| for your craft type Maximum Acce to return to boar | pe and skill level.<br><b>eptable</b> : The highest flow<br>t this run. | at which you would b  | e willing       | his flow         | ·.         |                    |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Evaluation Study Assumption of Risk and General Release of Liability

| a manage to a coloting a physical an acceptal acceptition and acceptance of acceptance of the color   | cognize   |
|---|-----------|
| aggravate existing physical or mental conditions or cause new ones. I re  |           |
| that whitewater activities, such as boating, rafting, kayaking, and swimm which I am going to participate, are dangerous and may include damage             | •         |
| personal property, serious physical injury, or death arising from a variety   | of        |
| hazards and unavoidable risks, including, but not limited to, rocks, trees,   | •         |
| waves, waterfalls, hydraulics, ejection from a water craft, and other haza difficulty or improbability of rescue. I acknowledge that the hazards asso       |           |
| with whitewater activities may be compounded. I also understand that sign   | gnificant |
| variations in river flow may alter the natural character of the river, and the access to the study sections of this river will include transportation along |           |
| roadways which may involve other potential hazards.   | nanow     |

- 2. As a participant in this whitewater evaluation study, I recognize:
  - a. that my participation is voluntary and I may discontinue participation at any time of my choosing;
  - b. that I am a joint venturer with the other trip participants;
  - that I am personally responsible for determining whether I have the skill and expertise to safely navigate the river segments in this study, which may include class IV, V and V+ rapids;
  - d. that I am solely responsible for selecting equipment suitable for use during the whitewater evaluation study;
  - e. that no other person or entity associated with this whitewater evaluation study
    has any obligation to attempt to rescue or assist me and that any attempted
    rescue or assistance may exacerbate my condition and cause injury or death;
    and
  - f. that I have no obligation to attempt to rescue or assist any other person, and that any such attempt on my part may result in injury or death to myself or the other person.
- 3. I understand and expressly assume all the dangers and risks incident to the whitewater evaluation study and release all claims including, but not limited to, property damage, personal injury or death, whether caused by negligence,

breach of contract or otherwise, which I may have against Placer County Water Agency and its affiliates, officers, directors, employees, agents, assigns or successors or any other company, organization, person or entity that may be involved in facilitating this whitewater evaluation study

- 4. I represent that:
  - a. I am 18 years of age or older;
  - b. I am signing this release and waiver voluntarily;
  - c. I have no physical or emotional problems, nor any history thereof, which will impair my ability to participate in the activities of the proposed whitewater evaluation study.
- 5. I recognize that neither Placer County Water Agency nor anyone else involved with this study is providing liability, health, or other insurance in connection with this whitewater evaluation study. I agree to assume all financial responsibility for any medical, rescue or other expenses that I may incur.
- 6. I assume full responsibility for, and agree to defend, hold harmless and indemnify Placer County Water Agency, its affiliates, its officers, directors, employees, agents, successors and assigns against, any claims, losses or judgments that may arise from any damage or injury either to me or my personal property or that I may cause to others or their personal property while participating in this whitewater evaluation study.
- 7. This waiver shall be binding upon me, my heirs, executors and administrators.

| d:      | <del></del>  |
|---------|--------------|
| (Print) | (Print name) |
|         |              |
|         | Signature    |
|         | Address:     |
|         |              |
|         |              |

Middle Fork American River
French Meadows Reservoir to Middle Fork Interbay
Revised Itinerary Letter and Attachment

**FINAL** 

#### **Mary Preuss**

From: PCWA MFP Relicensing [Relicensing@pcwa.net]

**Sent:** Tuesday, May 18, 2010 12:38 PM

To: jared.noceti@kayaker.com; charliecenter@hotmail.com; D\_mcquoid@hotmail.com;

macykayak@hotmail.com; Julie Leimbach; Ben Ransom; Andy Fecko; Dave Martinez; Mary

Preuss; kwood4life@yahoo.com

**Subject:** PCWA/MFP - May 22, 2010 Revised Itinerary

Attachments: FM WW Single Flow Itinerary Revised 5-18-10 mtz.doc

Dear Relicensing Participant -

Attached is a revised itinerary for the May 22 French Meadows to MF Interbay whitewater flow study. The May 21 meeting time has been changed to accommodate for travel considerations for the boating team. The Study team will meet at the Middle Fork Interbay on May 21 at **7:00 pm**.

Thanks, Beverly

Beverly Bell Administrative Aide (530) 823-4973 (530) 823-4960 (fax)

### Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay – May 22, 2010

#### ITINERARY Revised May 18, 2010

#### May 21

7:00 PM Study Team meets at Middle Fork Interbay

7:00 – 7:30 PM Complete Boater Profile forms and Liability Waivers (if needed)

and provide Boating Team with Flow Study overview

7:30 PM Load boats and gear depart for put-in

8:30 PM Arrive at French Meadows Reservoir – unload gear at camp

May 22

6:30 AM Put-in

6:30 AM – 6:00 PM On-water boating time is variable and remainder of itinerary will

be adjusted accordingly

6:00 PM Take-out (Middle Fork Interbay)

6:30 – 7:30 PM Complete Flow Evaluation Forms and Group Discussion



#### **APPENDIX D**

**Blank and Completed Single Flow Evaluation Forms** 

Middle Fork American River

Middle Fork Interbay to Ralston Afterbay

Blank Single Flow

Evaluation Form

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Na  | ame:   | Date:          |   |
|-----|--|----------------|---|
| Riv | iver:  |                |   |
| Pu  | ut in location:  |                | Put in time:                                |
| Та  | ake out location:  | Take out time: |   |
| 1.  | What type of craft did you use for this                      |                |   |
| 2.  | What type(s) of watercraft would be s would be appropriate). | suitable for t | his reach at today's flow? (Circle all that |
|     | a. Kayak   | f. Ca          | taraft                                      |
|     | b. Closed deck canoe   | _              | atable kayak                                |
|     | c. Raft  | h. Otl         | her:  |
|     | e. Open canoe  |                |   |
| 3.  | Was access from the parking area to a. Yes □                 | the river at   | the put-in adequate?                        |
|     | b. No 🗌  |                |   |
|     | If No, please explain:                                       |                |   |
|     |  |                |   |
| 4.  | Was egress from the river to the park  a. Yes  b. No         | ing area at t  | the take-out adequate?                      |
|     | If No, please explain:                                       |                |   |
|     |  |                |   |
|     |  |                |   |
| 5.  | Would you typically boat this reach as                       | s a single or  | multi-day trip?                             |
|     | a. Single  |                |   |
|     | b. Multi-day 🗌   |                |   |
|     | c. Both  |                |   |

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| 6. | If this reach was boated as a two overnight camping?               | o-day run, did you notice any sites that would be suitable for                          |
|----|--|---|
|    | a. N/A   |   |
|    | Location   | Description   |
|    | 1.   |   |
|    | 2.   |   |
|    | 3.   |   |
|    | 4.   |   |
| 7. | Estimate the number of times you for portaging and estimate the to | ou stopped and got out of your boat for breaks, scouting, or otal amount of time spent. |
|    | Number of stops for breaks   | Total minutes out of boat   |
|    | Number of stops for scouting                                       | Total minutes out of boat   |
|    | Number of stops for portaging                                      | Total minutes out of boat   |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                      |      | Portage Difficulty    |                         |                        | Requires                           | Portage<br>Route            | Estimated       |
|----------------------|------|-----------------------|-------------------------|------------------------|------------------------------------|-----------------------------|-----------------|
| Location Description | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River<br>Right or<br>Left) | Portage<br>Time |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |
|                      |      |                       |                         |                        |                                    |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard |
|----------------------|---------------|
| 1.                   |               |
|                      |               |
|                      |               |
| 2.                   |               |
|                      |               |
|                      |               |
| 3.                   |               |
|                      |               |
|                      |               |
| 4.                   |               |
|                      |               |
|                      |               |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| 10. How would you rate the whitewater diffici | ulty of this run? (Use American Whitewater's |
|---|--|
| International Scale of Whitewater Difficul    | ty that ranges from Class I to Class VI)     |

| 11. Please evaluate thi | s flow for each | n of the following | characteristics. | (Circle one | number for |
|-------------------------|-----------------|--------------------|------------------|-------------|------------|
| each characteristic     | ).              |                    |                  |             |            |

|   |        |            | Rating  |            |        |
|---|--------|------------|---------|------------|--------|
| Characteristic                                | Accep  | table      | Neutral | Unacce     | ptable |
|   | Highly | Moderately |         | Moderately | Highly |
| Boatability                                   | 2      | 1          | 0       | -1         | -2     |
| Availability of challenging technical boating | 2      | 1          | 0       | -1         | -2     |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | -2     |
| Availability of whitewater "play areas"       | 2      | 1          | 0       | -1         | -2     |
| Overall whitewater challenge                  | 2      | 1          | 0       | -1         | -2     |
| Safety  | 2      | 1          | 0       | -1         | -2     |
| Length of run                                 | 2      | 1          | 0       | -1         | -2     |
| Rate of travel                                | 2      | 1          | 0       | -1         | -2     |
| Number of portages                            | 2      | 1          | 0       | -1         | -2     |

12. Please rate your overall satisfaction with today's flow.

| Rating                        |            |         |            |        |  |
|-------------------------------|------------|---------|------------|--------|--|
| Satisfied Neutral Unsatisfied |            |         |            |        |  |
| Highly                        | Moderately | Neutrai | Moderately | Highly |  |
| 2                             | 1          | 0       | -1         | -2     |  |

| Please explain your rating: |  |  |
|-----------------------------|--|--|
| -                           |  |  |
|                             |  |  |

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Much Lower<br>Flow                                      | Slightly Lower Flow  | About the Same<br>Flow | Slightly Flow       |                  | Мι        | uch Higher<br>Flow |
|---|--|------------------------|---------------------|------------------|-----------|--------------------|
|   |  |                        |                     |                  |           |                    |
| Please explain:   |  |                        |                     |                  |           |                    |
|   |  |                        |                     |                  |           |                    |
|   |  |                        |                     |                  |           |                    |
|   |  |                        |                     |                  |           |                    |
| . Based on toda   | y's study and your ex  | xperience, can y       | ou identify         | a ranç           | ge of flo | ows that wo        |
|   | y's study and your ex<br>boating this part of th   |                        |                     | ⁄ a ranç<br>∐ No | ge of flo | ows that wo        |
|   |  |                        |                     | □ No `           |           |                    |
| be suitable for   | boating this part of the   | he reach. ☐ Ye         | es                  | ,                | ge of flo |                    |
| be suitable for  Minimum Accept return to boat on t     | boating this part of the boating this part of the boating this part of the boat of the boat control boating the boating th | he reach. Ye           | willing to          | □ No `           |           |                    |
| Minimum Accept return to boat on to for your craft type | able: The lowest flow at whis run.  v that creates the best con and skill level.  table: The highest flow at   | which you would be     | willing to eristics | □ No `           |           | ows that wo        |

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Lower Part of Re                                   | ach (  |                       |            |                         |            | to Take-out        |  |  |  |
|--|--|-----------------------|------------|-------------------------|------------|--------------------|--|--|--|
| 13b. In general, v<br>(Check one)                  | vould you prefer a flo   | w that was higher,    | lower, or  | about t                 | he sar     | ne as this flow?   |  |  |  |
| Much Lower<br>Flow                                 | Slightly Lower<br>Flow   | About the Same Flow   |            | Slightly Higher<br>Flow |            | uch Higher<br>Flow |  |  |  |
|  |  |                       |            |                         |            |                    |  |  |  |
| 14b. Based on to                                   | Please explain:  4b. Based on today's study and your experience, can you identify a range of flows that would be suitable for boating this part of the reach.   Yes   No |                       |            |                         |            |                    |  |  |  |
|  |  |                       |            | yes                     | no         | Flow (cfs)         |  |  |  |
| Minimum Acce<br>return to boat o                   | eptable: The lowest flow an this run.  | at which you would be | willing to |                         |            |                    |  |  |  |
|  | low that creates the best ope and skill level.   | combination of charac | teristics  |                         |            |                    |  |  |  |
| Maximum Acc<br>to return to boa                    | eptable: The highest flow t this run.  | at which you would b  | e willing  |                         |            |                    |  |  |  |
| 15b. Please prov                                   | ide any additional cor   | mments about the      | reach at t | his flow                | ' <b>.</b> |                    |  |  |  |
| for your craft type Maximum Acce to return to boar | pe and skill level.<br><b>eptable</b> : The highest flow<br>t this run.  | at which you would b  | e willing  | his flow                | ·.         |                    |  |  |  |

Middle Fork American River

Middle Fork Interbay to Ralston Afterbay

Completed Single Flow

Evaluation Form

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Name: Phil Koyer  | Date: <u>5 OS 10</u>                                  |
|---|---|
| River: Middle Fork  |   |
| Put in location: Intel Bay Dam  | Put in time: 16:15                                    |
| Take out location: RalsTon P.cn.c A   | Take out time: 5.15                                   |
| What type of craft did you use for this rul   | n? Kayak  |
| <ol><li>What type(s) of watercraft would be suita<br/>would be appropriate).</li></ol>        | able for this reach at today's flow? (Circle all that |
| a. Kayak  | f. Cataraft   |
| b. Closed deck canoe  | g. Inflatable kayak                                   |
| c. Raft   | h. Other:   |
| e. Open canoe   |   |
| <ul><li>3. Was access from the parking area to the</li><li>a. Yes ☒</li><li>b. No ☐</li></ul> | river at the put-in adequate?                         |
| If No, please explain:  |   |
|   |   |
|   |   |
| 4. Was egress from the river to the parking   | area at the take-out adequate?                        |
| a. Yes 🗵  |   |
| b. No 🗌   |   |
| If No, please explain:  |   |
|   |   |
|   |   |
| 5. Would you typically boat this reach as a   | single or multi-day trip?                             |
| a. Single   |   |
| b. Multi-day  |   |
| c. Both   |   |
| C. 2001   |   |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| a. N/A 🗌<br>b. Yes 🛛<br>c. No 🗍  |  |
|----------------------------------|--|
| Location                         | Description  |
| 1. Middle Section                | Lorge Gravel + wooded benches                            |
| 2.                               |  |
| 3.                               |  |
| 4.                               |  |
|                                  | ou stopped and got out of your boat for breaks, scouting |
| for portaging and estimate the t | ·  |
| Number of stops for breaks       | Total minutes out of boat 50 min                         |
| Number of stops for scouting     | 12 Total minutes out of boat 1,5 h/                      |
| Number of stops for portaging    |  |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|  | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |      | Porta                 | age Difficulty          |                        | Requires                           | Portage<br>Route            | Estimated       |
|--|---|------|-----------------------|-------------------------|------------------------|------------------------------------|-----------------------------|-----------------|
|  | Location Description                    | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River<br>Right or<br>Left) | Portage<br>Time |
|  | Lower<br>STEEP SECTION                  |      |                       | Ø                       |                        | Lowered<br>BOOTS Y<br>Rore         | LEFT                        | 30 mm           |
|  | Lover Steel<br>Section                  | X    |                       |                         |                        |                                    | Right                       | 5 min           |
| A TOTAL CONTRACTOR AND CONTRACTOR AN | Lover Steel                             |      | Ø                     |                         |                        |                                    | LATT                        | 20 n.m          |
|  | >                                       |      |                       |                         |                        |                                    |                             |                 |
|  | -                                       |      |                       |                         |                        |                                    |                             |                 |
|  |   |      |                       |                         |                        |                                    |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard                    |
|----------------------|----------------------------------|
| 1.                   |                                  |
|                      | Plenty of Trees in River Channel |
| 2.                   |                                  |
|                      |                                  |
| 3.                   |                                  |
|                      |                                  |
| 4.                   |                                  |
|                      |                                  |
|                      |                                  |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Raiston Afterbay Single Flow Evaluation Form

- 10. How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI)
- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |        |            | Rating  |            | · · · · · · · · · · · · · · · · · · · |
|---|--------|------------|---------|------------|---------------------------------------|
| Characteristic                                | Acce   | ptable     | Neutral | Unacce     | ptable                                |
|   | Highly | Moderately |         | Moderately | Highly                                |
| Boatability                                   | (2)    | 1          | 0       | -1         | -2                                    |
| Availability of challenging technical boating | 2      | 1          | 0       | -1         | -2                                    |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | -2                                    |
| Availability of whitewater "play areas"       | 2      | 1          | 0       | (1)        | -2                                    |
| Overall whitewater challenge                  | (2)    | 1          | 0       | -1         | -2                                    |
| Safety  | 2      | 1          | 0       | -1         | -2                                    |
| Length of run                                 | (2)    | 1          | 0       | -1         | -2                                    |
| Rate of travel                                | (2)    | 1          | 0       | -1         | -2                                    |
| Number of portages                            | (2)    | 1          | 0       | -1         | -2                                    |

12. Please rate your overall satisfaction with today's flow.

|        |                               | Rating  |            |        |  |  |
|--------|-------------------------------|---------|------------|--------|--|--|
|        | Satisfied Neutral Unsatisfied |         |            |        |  |  |
| Highly | Moderately                    | Neutrai | Moderately | Highly |  |  |
| (2)    | .1                            | 0       | -1         | -2     |  |  |

Please explain your rating:
The Fun has Plenty of Technical Popids at beginning a end of Kun W/
The widdle section Consiting of great Read a run Ropids.
The Scenery a wildlife is fantosic

3 Rlack Beat

1 Grent Blue Heron

Ducks Galor

The Flow made for scent channels in all ropids when needed. The Flow covered also of the small boulders in the middle Road+Run Section making for a much Cleanet Fun Run

## **PLACER COUNTY WATER AGENCY** Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Much Lower<br>Flow  | Slightly Lower<br>Flow                | About the Same<br>Flow  | Slightly Higher<br>Flow |       | Much Higher<br>Flow |              |
|---|---------------------------------------|-------------------------|-------------------------|-------|---------------------|--------------|
|   |                                       |                         | <u>X</u>                |       |                     |              |
| Please explain:  a Similar T  Channels                      | o SlighTly high                       | ner Flow would          | 1 clean                 | 6/2 J | he 1                | Suns Tiphi   |
|   |                                       | experience, can yo      |                         |       | e of fl             | lows that wo |
| be suitable for   | boating this part of                  | f the reach. 🛮 🔼 Yes    | S L                     | No    |                     |              |
|   |                                       |                         |                         | 31    |                     |              |
| Minimum Accept  |                                       | at which you would be w |                         | yes   | no                  | Flow (cfs)   |
| return to boat on t   | nis run.<br>v that creates the best o | at which you would be w | villing to              | yes   | no                  |              |
| return to boat on the optimal: The flow for your craft type | nis run.                              |                         | villing to              | yes   | no                  | '            |

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Fork American River – MF Interbay to Ralston Aft

Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Much Lower<br>Flow   |  | / Higher<br>ow    | Mı        | uch Higher<br>Flow |
|--|--|-------------------|-----------|--------------------|
|  |  |                   |           |                    |
| ease explain:  |  |                   |           |                    |
|  |  |                   |           |                    |
|  |  |                   |           |                    |
|  |  |                   |           |                    |
|  |  |                   |           |                    |
|  | ay's study and your experience, can you ident  |                   | ge of flo | ows that wo        |
|  | ay's study and your experience, can you ident<br>r boating this part of the reach.   \[ \sum Yes \]  | ify a ran<br>□ No | ge of flo | ows that wo        |
|  |  |                   | ge of flo | ows that wo        |
| be suitable for  | r boating this part of the reach.  Yes  Table: The lowest flow at which you would be willing to  | □ No              |           |                    |
| be suitable for Minimum Accept return to boat on   | table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics  | □ No              |           |                    |
| Minimum Accep return to boat on Optimal: The flor  | table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics and skill level.  ptable: The highest flow at which you would be willing | □ No              |           |                    |
| Minimum Accep return to boat on Optimal: The flor for your craft type Maximum Accep                    | table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics and skill level.  ptable: The highest flow at which you would be willing | □ No              |           |                    |
| Minimum Accep return to boat on Optimal: The flo for your craft type Maximum Accep to return to boat t | table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics and skill level.  ptable: The highest flow at which you would be willing | yes yes           | no        |                    |

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### **PLACER COUNTY WATER AGENCY** Middle Fork American River Project Relicensing

Whitewater Boating Flow Study

Middle Fork American River – MF Interbay to Ralston Afterbay

Single Flow Evaluation Form -101

| lame: \500                                       | ad 15re                         | U3C-              |                     | Date: 5/8/10                            |
|--|---------------------------------|-------------------|---------------------|---|
| River: <u> </u>                                  | American                        |                   |                     | ,                                       |
| out in location:                                 | Inner                           | Bay               |                     | Put in time: 10:15                      |
| ake out location                                 | : Ralston                       | Picnic            | Asca                | Put in time: 10:15  Take out time: 5:15 |
|  |                                 |                   | 1                   |   |
| . What type of                                   | craft did you i                 | use for this run? | hayak               |   |
| <ol> <li>What type(s)<br/>would be ap</li> </ol> |                                 | would be suitabl  | e for this reach a  | t today's flow? (Circle all that        |
| <a>a</a> Kayal                                   | <                               |                   | f. Cataraft         |   |
| (b) Close  | d deck canoe                    |                   | g. Inflatable kaya  | k                                       |
| c. Raft  |                                 |                   | h. Other:           |   |
| e. Open  | canoe                           |                   |                     |   |
| 3. Was access<br>a.<br>b.                        | from the parki<br>Yes 🔲<br>No 💢 | ng area to the ri | ver at the put-in a | adequate?                               |
| If No, please                                    | explain:                        | t 15 slipp        | ery trail           |   |
| I. Was egress                                    | from the river                  | to the parking a  | rea at the take-ou  | t adequate?                             |
| a.   | Yes 🕅                           | , ,               |                     | •                                       |
| b.   | No 🗍                            |                   |                     |   |
|  |                                 |                   |                     |   |
| If No, please                                    | explain:                        |                   |                     |   |
|  |                                 |                   |                     |   |
| 5. Would you ty                                  | pically boat th                 | is reach as a sir | ngle or multi-day   | trip?                                   |
| a.   | Single                          |                   |                     |   |
| . b.   | Multi-day                       |                   |                     |   |
| C.   | Both                            | ×                 |                     |   |

| 6. | If this rea |    |     |   | s a two-day run, did you notice any sites that would be suitable f | or |
|----|-------------|----|-----|---|--|----|
|    |             | a. | N/A |   |  |    |
|    |             | b. | Yes | X |  |    |
|    |             | c. | No  |   |  |    |

| Location   | Description                      |  |  |  |  |
|--|----------------------------------|--|--|--|--|
| 1. Clear bench about<br>Plucy on 1st. abt 1/2            | Cleared 5/at area on rur<br>lest |  |  |  |  |
| 2. clear loench above<br>viscr or rt qut<br>3/4 vay down | Cleared Flat area on non         |  |  |  |  |
| 4.   |                                  |  |  |  |  |

| 7. | Estimate the number of times you stopped and got out of your boat for breaks, scouting, or |
|----|--|
|    | for portaging and estimate the total amount of time spent.                                 |

| Number of stops for breaks    |     | Total minutes out of boat | 30 m   |
|-------------------------------|-----|---------------------------|--------|
| Number of stops for scouting  | 12  | Total minutes out of boat | 1 hc   |
| Number of stops for portaging | 2.5 | Total minutes out of boat | 45 min |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                                  |      | Port                  | age Difficulty          | Requires               | Portage<br>Route                        | Estimated                   |                 |
|----------------------------------|------|-----------------------|-------------------------|------------------------|---|-----------------------------|-----------------|
| Location Description             | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear      | (River<br>Right or<br>Left) | Portage<br>Time |
| Long sapid W<br>wood 3/4<br>down |      | X                     |                         |                        |   | Lest                        | 5 min           |
| 19 rapid will large sleve        |      |                       | Á                       |                        |   | reft                        | 15 m.h          |
| 2nd rapid w<br>wood 3/4          |      |                       | X                       |                        | hopes                                   | Left                        | 30 m;           |
|                                  |      |                       |                         |                        | *************************************** |                             |                 |
|                                  |      |                       |                         |                        |   |                             |                 |
|                                  |      |                       |                         |                        |   |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description               | Safety Hazard                  |
|------------------------------------|--------------------------------|
| 1. Several downed trees dons river | wood/trees - pin/broach hazard |
| 2.                                 |                                |
| 3.                                 |                                |
| 4.                                 |                                |

- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   | Rating   |            |         |              |        |  |  |
|---|----------|------------|---------|--------------|--------|--|--|
| Characteristic                                | Acce     | ptable     | Neutral | Unacceptable |        |  |  |
|   | Highly   | Moderately |         | Moderately   | Highly |  |  |
| Boatability                                   | 2        | 1          | 0       | -1           | , · -2 |  |  |
| Availability of challenging technical boating | 2        | 1          | 0       | -1           | -2     |  |  |
| Availability of powerful hydraulics           | (2)      | 1          | 0       | -1           | -2     |  |  |
| Availability of whitewater "play areas"       | 2        | 1          | 0       | -1           | (2)    |  |  |
| Overall whitewater challenge                  | <b>②</b> | 1          | 0       | -1           | -2     |  |  |
| Safety  | 2        | (1)        | 0       | -1           | -2     |  |  |
| Length of run                                 | 2        | ①          | 0       | -1           | -2     |  |  |
| Rate of travel                                | 2        | (1)        | 0       | -1           | -2     |  |  |
| Number of portages                            | 2        | (1)        | 0       | -1           | -2     |  |  |

12. Please rate your overall satisfaction with today's flow.

| Sa     | tisfied    | Neutral | Unsa       | tisfied |
|--------|------------|---------|------------|---------|
| Highly | Moderately | Neutrai | Moderately | Highly  |
| (2)    | 1          | 0       | -1         | -2      |

|   | (2)        |                | 1                 | 0   | -1         |      | -2   | f           |
|---|------------|----------------|-------------------|-----|------------|------|------|-------------|
|   |            |                |                   |     |            |      |      | 5 hisher    |
| F | Please exp | lain y         | rour rating:      |     | <i>c</i> 1 | 3    |      | V II        |
|   | Flow       | 25             | <u>480 &lt;45</u> | was | pertect    | , 70 | much | 10Wer would |
|   | not be     | Q <sub>Q</sub> | cceptably         |     | \<br>      | 1    |      |             |
| _ |            |                | 1,001             |     |            |      |      |             |

### Middle Fork American River Project Relicensing

### Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| IIIABOT |              | 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 0 |
|---------|--------------|---|---|
|         | LORILE TATAL |   |   |

|                         |  | XÍ L   |   |  |  |
|-------------------------|--|--|---|--|--|
|                         |  |  |   | 1  |  |
| ase explain:<br>Mudh hl | sher f   | lower would  | l be c  | dage   | rous_  |
|                         |  |  | □ No  | 1 1  | ows that wo  |
|                         |  | at which you would be will   |   |  | 400  |
|                         |  | combination of characteris   | tics (  |  | 480  |
|                         |  | at which you would be w  | illing 1  |  | 550  |
|                         | Based on today oe suitable for inimum Accepta eturn to boat on the ptimal: The flow or your craft type a | Based on today's study and your pe suitable for boating this part of inimum Acceptable: The lowest flow a sturn to boat on this run.  ptimal: The flow that creates the best or your craft type and skill level. | Based on today's study and your experience, can you be suitable for boating this part of the reach. Yes inimum Acceptable: The lowest flow at which you would be will sturn to boat on this run.  ptimal: The flow that creates the best combination of characterism your craft type and skill level.  aximum Acceptable: The highest flow at which you would be will aximum Acceptable: The highest flow at which you would be will aximum Acceptable. | Based on today's study and your experience, can you identify a range suitable for boating this part of the reach.  yes  inimum Acceptable: The lowest flow at which you would be willing to sturn to boat on this run.  ptimal: The flow that creates the best combination of characteristics or your craft type and skill level.  aximum Acceptable: The highest flow at which you would be willing | Based on today's study and your experience, can you identify a range of floor boating this part of the reach.    Yes |

### Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Much Lower<br>Flow   | Slightly Lower<br>Flow  |   | tly Higher<br>Flow | Mu        | uch Higher<br>Flow |
|--|---|---|--------------------|-----------|--------------------|
| . 🔲  |   |   |                    |           |                    |
| Please explain:  |   |   |                    |           |                    |
|  |   |   |                    |           |                    |
|  |   |   |                    |           |                    |
|  |   | experience, can you ide<br>f the reach. | ntify a ran<br>No  | ge of flo | ows that wo        |
|  |   |   | yes                | no        | Flow (cfs)         |
|  |   | et which you would be willing t         |                    |           |                    |
| Minimum Accept<br>return to boat on t                                    |   | at which you would be willing t         |                    |           |                    |
| return to boat on t  | this run. w that creates the best   | combination of characteristics          |                    |           |                    |
| return to boat on to Optimal: The flow for your craft type               | this run.  w that creates the best and skill level.  utable: The highest flow | · ·                                     |                    |           |                    |
| return to boat on to Optimal: The flow for your craft type Maximum Accep | this run.  w that creates the best and skill level.  utable: The highest flow | combination of characteristics          |                    |           |                    |
| return to boat on to Optimal: The flow for your craft type Maximum Accep | this run.  w that creates the best and skill level.  utable: The highest flow | combination of characteristics          |                    |           |                    |

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### Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – MF Interbay to Ralston Afterbay
Single Flow Evaluation Form

| Name: Scott Ligare   | Date: 5/8                         |
|--|-----------------------------------|
| River: Middle Fork American  |                                   |
| Put in location: Interbay Dam  | Put in time:                      |
| Take out location: Ralston Picnic Apen   | Take out time:                    |
| 1. What type of craft did you use for this run?/(4/9/  |                                   |
| <ol><li>What type(s) of watercraft would be suitable for this reach<br/>would be appropriate).</li></ol>       | at today's flow? (Circle all that |
| a. Kayak f. Cataraft   |                                   |
| b. Glosed deck canoe g. Inflatable kay   |                                   |
| c. Raft h. Other:  |                                   |
| e. Open canoe  |                                   |
| <ul><li>3. Was access from the parking area to the river at the put-in</li><li>a. Yes </li><li>b. No</li></ul> | adequate?                         |
| If No, please explain: Had to use ropes to lower {   | poats to water                    |
| 4. Was egress from the river to the parking area at the take-o a. Yes  b. No                                   | out adequate?                     |
| If No, please explain:   |                                   |
| 5. Would you typically boat this reach as a single or multi-day  | trip?                             |
| a. Single  |                                   |
| c. Both  |                                   |

| 6. | If this reach was boated as a tw overnight camping?                                     | o-day run, did you notice any sites that would be suitable fo   |
|----|---|---|
|    | a. N/A  |   |
|    | b. Yes 💆<br>c. No 🔲   |   |
|    | Location  | Description   |
|    | 1.  |   |
|    | 2.  |   |
|    | 3.  |   |
|    | 4.  |   |
| 7  | Estimate the number of times vi   | ou stopped and got out of your boat for breaks, scouting, or  |
| •• | for portaging and estimate the t  |   |
|    | Number of stops for breaks  Number of stops for scouting  Number of stops for portaging | Total minutes out of boat  Total minutes out of boat |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                              |      | requires Requires     |                         | Portage<br>Route       | Estimated                          |                             |                 |
|------------------------------|------|-----------------------|-------------------------|------------------------|------------------------------------|-----------------------------|-----------------|
| Location Description         | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River<br>Right or<br>Left) | Portage<br>Time |
| Near put in                  | Ŗ    |                       |                         |                        | No                                 | RT                          | 3 m/4           |
| 4.5 miles Takeout            |      |                       | 8                       |                        | Jes                                | RT                          | 15 mis          |
| ~ 1.5 miles<br>above takeout |      | Ø                     |                         |                        | No                                 | BT                          | 12 min          |
|                              |      |                       |                         |                        |                                    |                             |                 |
|                              |      |                       |                         |                        |                                    |                             |                 |
|                              |      |                       |                         |                        |                                    |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard    |
|----------------------|------------------|
| 1. Wood Through out  | Trees in channel |
| 2.                   |                  |
| 3.                   |                  |
| 4.                   |                  |

- 10. How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI)
- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   | Rating     |            |         |              |        |  |
|---|------------|------------|---------|--------------|--------|--|
| Characteristic                                | Acce       | ptable     | Neutral | Unacceptable |        |  |
|   | Highly     | Moderately |         | Moderately   | Highly |  |
| Boatability                                   | <b>(</b> ) | 1          | 0       | -1           | -2     |  |
| Availability of challenging technical boating | (3)        | 1          | 0       | -1           | -2     |  |
| Availability of powerful hydraulics           | 2          | G          | 0       | -1           | -2     |  |
| Availability of whitewater "play areas"       | 2          | 1          | 0       | -1           | 2      |  |
| Overall whitewater challenge                  | 2          | (1)        | 0       | -1           | -2     |  |
| Safety  | 2          | (1)        | 0       | -1           | -2     |  |
| Length of run                                 | 2          | (1)        | 0       | -1           | -2     |  |
| Rate of travel                                | 2          | Ũ          | 0       | -1           | -2     |  |
| Number of portages                            | 2          | (1)        | 0       | -1           | -2     |  |

12. Please rate your overall satisfaction with today's flow.

| Rating |            |         |            |         |  |  |
|--------|------------|---------|------------|---------|--|--|
| Sa     | tisfied    | Neutral | Unsa       | tisfied |  |  |
| Highly | Moderately | Neutrai | Moderately | Highly  |  |  |
| (2)    | 1          | 0       | -1         | -2      |  |  |

| Please ex | plain you<br>+ ∈‰ | ,    | us we | J. In | be-  | WIZ   | rocks | in | Places |  |
|-----------|-------------------|------|-------|-------|------|-------|-------|----|--------|--|
| and       | More              | Flow | Could | prod  | uce. | big h | oles. |    |        |  |

| <b>Jpper Part of R</b>                        | Sing  | le Flow Evaluatio                                   | n Form             |        |          |                    |
|---|---|---|--------------------|--------|----------|--------------------|
|   | each (Put-in to   |   |                    |        |          | )                  |
| 13a. In general,<br>(Check one                |   | low that was higher,                                | lower, or a        | bout t | he sar   | ne as this flow    |
| Much Lower<br>Flow                            | Slightly Lower<br>Flow  | About the Same<br>Flow                              | Slightly H<br>Flow | -      | М        | uch Higher<br>Flow |
|   |   | 2   |                    |        |          |                    |
|   |   | ur experience, can y<br>of the reach. ∂Ð Ye         |                    | a rang | ge of fl |                    |
|   |   |   |                    | _      |          | ows that would     |
|   |   |   | [                  | yes    | no       | Flow (cfs)         |
| Minimum Acc                                   |   | w at which you would be                             | willing to         | yes    | no       |                    |
| return to boat  Optimal: The                  | on this run.  | w at which you would be<br>st combination of charac |                    | yes    | no       |                    |
| return to boat  Optimal: The for your craft t | on this run. flow that creates the be-<br>ype and skill level. ceptable: The highest fl | <u>•</u>  | teristics          | yes    | no       |                    |

August 2010 D-23

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Fork American River – MF Interbay to Raiston Aft

Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

|  | in (   | Of the part of the second seco |            |                |           |                |
|--|--|--|------------|----------------|-----------|----------------|
| b. In general, wo<br>(Check one)                           | uld you prefer a flo   | w that was higher, l   | ower, or a | about 1        | he san    | ne as this flo |
| Much Lower   | Slightly Lower   | About the Same   | Slightly F |                | Mı        | uch Higher     |
| Flow   | Flow   | Flow   | Flov       | V              |           | Flow           |
|  |  |  |            |                |           |                |
| Please explain:  |  |  |            |                |           |                |
|  |  | experience, can yo   |            | a rang<br>□ No | ge of flo | ows that woเ   |
|  |  |  | _          |                |           |                |
|  |  |  |            | yes            | по        | Flow (cfs)     |
| Minimum Accept   |  | at which you would be v  | willing to | yes            | по        | Flow (cfs)     |
| return to boat on t  | his run.<br>v that creates the best o  | at which you would be w  |            | yes            | no        | Flow (cfs)     |
| return to boat on to Optimal: The flow for your craft type | his run. v that creates the best of<br>and skill level.<br>table: The highest flow |  | eristics   | yes            | no        | Flow (cfs)     |

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Reating Flow Study

Whitewater Boating Flow Study
Middle Fork American River – MF Interbay to Ralston Afterbay

| Single Flow Evaluation Forn  | n //                           |
|--|--------------------------------|
| Name: Eric Fettock   | Date: 5/8/10                   |
| River: Upper Middle Fork America Inne  | - Bay Run                      |
| Put in location: Part Innebay Dam  | Put in time: 10:15 A           |
| Take out location: Rals for  | Take out time: <u>5: /5 P</u>  |
| 1. What type of craft did you use for this run? #wdShell                                 | Kayak                          |
| 2. What type(s) of watercraft would be suitable for this reach at would be appropriate). | today's flow? (Circle all that |
| a. Kayak f. Cataraft   |                                |
| b. Closed deck canoe g. Inflatable kayak   |                                |
| c. Raft h. Other:  |                                |
| e. Open canoe  |                                |
| 3. Was access from the parking area to the river at the put-in a                         | dequate?                       |
| a. Yes   |                                |
| b. No 🗌  |                                |
| If No, please explain:   |                                |
|  |                                |
| 4. Was egress from the river to the parking area at the take-out                         | t adequate?                    |
| a. Yes 🔼   |                                |
| b. No 🗌  |                                |
|  |                                |
| If No, please explain:   |                                |
|  |                                |
|  |                                |
| 5. Would you typically boat this reach as a single or multi-day to                       | rip?                           |
| a. Single  |                                |
| b. Multi-day   |                                |
| c. Both  |                                |

| 6. | If this reach was boated as a to overnight camping?           | o-day run, did you notice any sites th                          | nat would be suitable for  |
|----|---|---|--|
|    | a. N/A ☐<br>b. Yes █<br>c. No ☐                               |   |  |
|    | Location  | Description   | 1 m-1/2 in 1/2 i |
|    | 1.  |   |  |
|    | 2.  |   |  |
|    | 3.  |   |  |
|    | 4.  |   |  |
| 7. | Estimate the number of times y for portaging and estimate the | ou stopped and got out of your boat total amount of time spent. | for breaks, scouting, or   |
|    | Number of stops for breaks                                    | 2 Total minutes out of boar                                     |  |
|    | Number of stops for scouting _                                | Total minutes out of boar                                       |  |
|    | Number of stops for portaging _                               | Total minutes out of boar                                       | 1 /hr  |
|    |   |   |  |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|  |      | Porta                 | age Difficulty          |                        | Requires                           | Portage<br>Route            | Estimated       |
|--|------|-----------------------|-------------------------|------------------------|------------------------------------|-----------------------------|-----------------|
| Location Description   | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River<br>Right or<br>Left) | Portage<br>Time |
| Just Below Pat-in  |      | Ø                     |                         |                        |                                    | Lelt                        | 5min            |
| upper Part of<br>Lower Steep Sects.<br>Aprix 1/2 mile<br>above falls |      |                       | Æ                       |                        |                                    | helt                        | 5mi<br>20m      |
| Aprix 1/2 mile above falls   |      |                       |                         | A                      |                                    | Lelt                        | 20m.            |
|  |      |                       |                         |                        |                                    |                             |                 |
|  |      |                       |                         |                        |                                    |                             |                 |
|  |      |                       |                         |                        |                                    |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description                          | Safety Hazard            |
|---|--------------------------|
| 1. June Numerous logs<br>wood in vive through | Ligs & Wood -            |
| 2. Frees growing                              | Trees growing in channel |
| 3. Throughout Run                             |                          |
| 4.  |                          |

- 10. How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI)
- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |        |            | Rating  |            |        |
|---|--------|------------|---------|------------|--------|
| Characteristic                                | Accep  | table      | Neutral | Unacce     | ptable |
|   | Highly | Moderately |         | Moderately | Highly |
| Boatability                                   | (2)    | 1          | 0       | -1         | -2     |
| Availability of challenging technical boating | (2)    | 1          | 0       | -1         | -2     |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | 2      |
| Availability of whitewater "play areas"       | 2      | 1          | (0)     | -1         | -2     |
| Overall whitewater challenge                  | (2)    | 1          | 0       | -1         | -2     |
| Safety  | 2      | 1          | (0)     | -1         | -2     |
| Length of run                                 | (2)    | 1          | 0       | -1         | -2     |
| Rate of travel                                | (2)    | 1          | 0       | -1         | -2     |
| Number of portages                            | 2      | 1          | 0       | -1         | -2     |

12. Please rate your overall satisfaction with today's flow.

| Rating |                   |         |            |        |  |
|--------|-------------------|---------|------------|--------|--|
|        | tisfied           | Neutral | satisfied  |        |  |
| Highly | Highly Moderately |         | Moderately | Highly |  |
| (2)    | 1                 | 0       | -1         | -2     |  |

| Please explain your rating: Maybe 100 Cfs more would be |     |
|---|-----|
| better, This were covered, channels clean for           | te. |
| most part   |     |

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study

Whitewater Boating Flow Study
Middle Fork American River – MF Interbay to Ralston Afterbay
Single Flow Evaluation Form

| Much Lower<br>Flow  | Slightly Lower<br>Flow   | About the Same Flow   | Slightly I<br>Flor | N .         | Much Higher<br>Flow |             |
|---|--|-----------------------|--------------------|-------------|---------------------|-------------|
| ease explain:   | Taybe 100  | cfo More              |                    |             |                     |             |
|   |  | experience, can yo    |                    |             | ge of fl            | ows that wo |
| be suitable for   | boating this part of   | f the reach. 🛛 Ye     | s<br>[             | □ No<br>ves | no                  |             |
| Minimum Accepta   | able: The lowest flow a  | at which you would be |                    | yes         | no                  |             |
| Minimum Accepta<br>return to boat on th<br>Optimal: The flow                          | able: The lowest flow and sis run.   |                       | willing to         | yes         | no                  | Flow (cfs)  |
| Minimum Accepta<br>return to boat on th<br>Optimal: The flow<br>for your craft type a | able: The lowest flow and strum.  If that creates the best cand skill level.  able: The highest flow | at which you would be | willing to         | yes         | no                  | Flow (cfs)  |

D-29

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Fork American River – MF Interbay to Ralston Aft

Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Much Lower<br>Flow   |  | Slightly Higher<br>Flow |          | uch Higher Flow |
|--|--|-------------------------|----------|-----------------|
| agga avalaint  |  |                         | •        |                 |
| ease explain:  |  |                         |          |                 |
|  |  |                         |          |                 |
|  |  |                         |          |                 |
|  |  |                         |          |                 |
|  | ay's study and your experience, can you ident<br>r boating this part of the reach. ☐ Yes   | ify a ran<br>□ No       | ge of fl | ows that wo     |
|  |  |                         | ge of fl | ows that wo     |
|  |  |                         | ge of fl | ows that wo     |
| be suitable for  | boating this part of the reach.  Yes   | □ No                    | _        |                 |
| be suitable for Minimum Accept return to boat on the suitable for the suit | table: The lowest flow at which you would be willing to this run.  | □ No                    | _        |                 |
| Minimum Accepted return to boat on to for your craft type  | table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics and skill level.  table: The highest flow at which you would be willing | □ No                    | _        |                 |
| Minimum Accepted return to boat on to the flow for your craft type  Maximum Accepted the flow for your craft type  | table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics and skill level.  table: The highest flow at which you would be willing | □ No                    | _        |                 |

FINAL

#### PLACER COUNTY WATER AGENCY

### Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – MF Interbay to Ralston Afterbay Single Flow Evaluation Form

| Na      | me: <u>** av</u>          | y Sco            | · · · · · · · · · · · · · · · · · · ·  |                    | Date: May 7                    |
|---------|---------------------------|------------------|--|--------------------|--------------------------------|
| Riv     | er: UPP                   | V Mip            | ole ton  |                    | 4                              |
| Put     | t in location:            | Interz           | Den Den  | <b></b>            | Put in time: 10° 0             |
| Tak     | ke out location:          | Raisto           | n Blum   | C AVECA            | Take out time:                 |
| 1.      | What type of              | craft did you u  | se for this run? _   | Whitex             | sater Kenyak                   |
| 2.      | What type(s) would be app |                  | vould be suitable f  | or this reach at   | today's flow? (Circle all that |
|         | a. Kayak                  |                  | f.   | Cataraft           |                                |
|         | b. Closed                 | deck canoe       | g.   | Inflatable kayak   |                                |
|         | c. Raft                   |                  | h.   | Other:             |                                |
|         | e. Open o                 | canoe            |  |                    |                                |
| 3.      | Was access f              | rom the parkin   | ng area to the rive  | r at the put-in ac | dequate?                       |
|         | a.                        | Yes 🖳            | og restricted and the second s |                    |                                |
|         | b.                        | No 🗌             |  |                    |                                |
|         | If No, please             | explain:         |  |                    |                                |
|         |                           |                  |  |                    |                                |
|         |                           |                  | · /  |                    |                                |
| 4.      | Was egress f              | rom the river to | o the parking area   | at the take-out    | adequate?                      |
|         | a.                        | Yes 🖳            | Committee of the Commit |                    |                                |
|         | b.                        | No 🗌             |  |                    |                                |
|         |                           |                  |  |                    |                                |
|         | If No, please             | explain:         |  |                    |                                |
|         |                           |                  |  |                    |                                |
| 5.      | Would you ty              | nically hoat thi | s reach as a singl   | e or multi-day tr  | in?                            |
| <b></b> | a.                        | Single           | ा प्रवास   | o or montrady ti   | ,h .                           |
|         | a.<br>b.                  | Multi-day        |  |                    |                                |
|         | C.                        | Both             |  |                    |                                |

| a. N/A  |      |                                       |           |             |
|---|------|---------------------------------------|-----------|-------------|
| Location  |      | Description                           |           |             |
| 1.  |      |                                       |           |             |
| 2.  |      |                                       |           |             |
| 3.  |      |                                       |           |             |
| 4.  |      |                                       |           |             |
|   | <br> |                                       |           |             |
| Estimate the number of times for portaging and estimate the |      |                                       | r breaks, | , scouting, |
| Number of stops for breaks  Number of stops for scouting    | <br> | inutes out of boat inutes out of boat | 20        | MM          |
| Number of stops for portaging                               | <br> | inutes out of boat                    |           |             |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

| A A A A A A A A A A A A A A A A A A A |        | Port                  | age Difficulty          |                        | Requires                           | Portage<br>Route | Estimated       |
|---------------------------------------|--------|-----------------------|-------------------------|------------------------|------------------------------------|------------------|-----------------|
| Location Description                  | Easy   | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River           | Portage<br>Time |
| and<br>Step seud                      | П<br>n |                       |                         |                        |                                    | River<br>Left    | 20 min          |
|                                       |        |                       |                         |                        |                                    |                  |                 |
|                                       |        |                       |                         |                        |                                    | 44.              |                 |
|                                       |        |                       |                         |                        |                                    |                  |                 |
|                                       |        |                       |                         |                        |                                    |                  |                 |
|                                       |        |                       |                         |                        |                                    |                  |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard |
|----------------------|---------------|
| 1.                   |               |
|                      |               |
| 2.                   |               |
|                      |               |
| 3.                   |               |
|                      |               |
| 4.                   |               |
|                      |               |

- 10. How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI)
- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |                |            | Rating  |            |        |  |
|---|----------------|------------|---------|------------|--------|--|
| Characteristic                                | Accep          | table      | Neutral | Unacce     | ptable |  |
|   | Highly         | Moderately |         | Moderately | Highly |  |
| Boatability                                   | $\binom{2}{2}$ | 1          | 0       | -1         | -2     |  |
| Availability of challenging technical boating | (2)            | 1          | 0       | 1          | -2     |  |
| Availability of powerful hydraulics           | 2              | 1          | 0       | -1         | -2     |  |
| Availability of whitewater "play areas"       | <u>^</u> 2     | (1)        | 0       | -1         | -2     |  |
| Overall whitewater challenge                  | 2              | 1          | 0       | -1         | -2     |  |
| Safety  | 2              | (1)        | 0       | -1         | -2     |  |
| Length of run                                 | 2              | (1)        | 0       | -1         | -2     |  |
| Rate of travel                                | 2              | 7          | 0       | -1         | -2     |  |
| Number of portages                            | (2)            | 1          | 0       | -1         | -2     |  |

12. Please rate your overall satisfaction with today's flow.

| Rating |            |         |            |           |  |  |
|--------|------------|---------|------------|-----------|--|--|
| Sa     | tisfied    | Neutral | Un         | satisfied |  |  |
| Highly | Moderately | Neutrai | Moderately | Highly    |  |  |
| (2)    | 1          | 0       | -1         | -2        |  |  |

| Please explain your rating:              |    |
|--|----|
| Great Fran - would not want any less     |    |
| ingther - Loud Use 160+ more CAS         |    |
| to was very mangaretoco Par Plat time MI | 1. |
|  |    |

### Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – MF Interbay to Ralston Afterbay

| Flow           | Flow   | About the Same Flow                   | Slightly i       | Higher                  | М         | uch Higher<br>Flow |
|----------------|--|---------------------------------------|------------------|-------------------------|-----------|--------------------|
|                |  |                                       | ď                |                         |           |                    |
|                | enas pai   | V                                     |                  |                         |           |                    |
|                | ay's study and your  | experience, can yo                    | ou identify      | a rano                  | ge of flo | ows that wo        |
| be suitable fo | ay's study and your or boating this part of  | experience, can yo<br>the reach. 🗹 Ye | ou identify<br>s | v a ranç<br>□ No<br>yes | ge of flo | ows that wo        |
| be suitable fo | r boating this part of table: The lowest flow a                                      | the reach. Ye                         | s                | ∐ No                    |           |                    |
| be suitable fo | r boating this part of  table: The lowest flow a this run. w that creates the best c | the reach. Ye                         | s<br>willing to  | ∐ No                    |           | Flow (cfs)         |

### Single Flow Evaluation Form

| Name of Account of the South Ask Combands and representation of Electrical Ask and a bed made on absorbers A com- | HT (   |                                     |                 |           | (0 // );        |
|---|--|-------------------------------------|-----------------|-----------|-----------------|
| 3b. In general, wor<br>(Check one)  | uld you prefer a flov  | w that was higher, lo               | wer, or about   | the san   | ne as this flow |
| Much Lower  | Slightly Lower   | About the Same                      | Slightly Higher | Mu        | uch Higher      |
| Flow  | Flow   | Flow                                | Flow            |           | Flow            |
|   |  |                                     |                 |           |                 |
| Please explain:   |  |                                     |                 |           |                 |
|   |  | experience, can you<br>f the reach. | identify a ran  | ge of flo | ows that wou    |
|   |  |                                     | yes             | no        | Flow (cfs)      |
|   | able: The lowest flow a  | at which you would be wi            | lling to        |           |                 |
| Minimum Accept<br>return to boat on ti  |  | at Willon you would be wi           | iiing to        |           |                 |
| return to boat on the   | his run.<br>v that creates the best o  | combination of characteri           | -               |           |                 |
| return to boat on the Optimal: The flow for your craft type   | his run. v that creates the best of<br>and skill level.<br>table: The highest flow |                                     | stics           |           |                 |

Middle Fork American River
French Meadows Dam to Middle Fork Interbay
Blank Single Flow
Evaluation Forms

### Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay

### Single Flow Evaluation Form

| · · · · · · · · · · · · · · · · · · · |
|---------------------------------------|
| time:                                 |
| out time:                             |
|                                       |
| flow? (Circle all that                |
|                                       |
|                                       |
| <del></del>                           |
|                                       |
| 9?                                    |
|                                       |
| ate?                                  |
|                                       |
|                                       |
|                                       |
|                                       |
|                                       |
|                                       |
|                                       |

August 2010 D-37

### Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| 6. | If this reach was boated as a two overnight camping?               | o-day run, did you notice any sites that would be suitable for                          |
|----|--|---|
|    | a. N/A   |   |
|    | Location   | Description   |
|    | 1.   |   |
|    | 2.   |   |
|    | 3.   |   |
|    | 4.   |   |
| 7. | Estimate the number of times you for portaging and estimate the to | ou stopped and got out of your boat for breaks, scouting, or otal amount of time spent. |
|    | Number of stops for breaks   | Total minutes out of boat   |
|    | Number of stops for scouting                                       | Total minutes out of boat   |
|    | Number of stops for portaging                                      | Total minutes out of boat   |

August 2010 D-38

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                      |      | Port                  | age Difficulty          |                        | Requires                           | Portage<br>Route<br>(River<br>Right or<br>Left) | Estimated       |
|----------------------|------|-----------------------|-------------------------|------------------------|------------------------------------|---|-----------------|
| Location Description | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear |   | Portage<br>Time |
|                      |      |                       |                         |                        |                                    |   |                 |
|                      |      |                       |                         |                        |                                    |   |                 |
|                      |      |                       |                         |                        |                                    |   |                 |
|                      |      |                       |                         |                        |                                    |   |                 |
|                      |      |                       |                         |                        |                                    |   |                 |
|                      |      |                       |                         |                        |                                    |   |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard |
|----------------------|---------------|
| 1.                   |               |
|                      |               |
|                      |               |
| 2.                   |               |
|                      |               |
|                      |               |
| 3.                   |               |
|                      |               |
|                      |               |
| 4.                   |               |
|                      |               |
|                      |               |

August 2010 D-39

#### **PLACER COUNTY WATER AGENCY** Middle Fork American River Project Relicensing **Whitewater Boating Flow Study**

#### Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| <ol><li>How would you rate the whitew</li></ol> | ater difficulty of this run? | (Use American Whitewater's |
|---|------------------------------|----------------------------|
| International Scale of Whitewat                 | er Difficulty that ranges fr | rom Class I to Class VI)   |

11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |        | Rating     |         |            |         |  |  |
|---|--------|------------|---------|------------|---------|--|--|
| Characteristic                                | Accep  | table      | Neutral | Unacce     | eptable |  |  |
|   | Highly | Moderately |         | Moderately | Highly  |  |  |
| Boatability                                   | 2      | 1          | 0       | -1         | -2      |  |  |
| Availability of challenging technical boating | 2      | 1          | 0       | -1         | -2      |  |  |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | -2      |  |  |
| Availability of whitewater "play areas"       | 2      | 1          | 0       | -1         | -2      |  |  |
| Overall whitewater challenge                  | 2      | 1          | 0       | -1         | -2      |  |  |
| Safety  | 2      | 1          | 0       | -1         | -2      |  |  |
| Length of run                                 | 2      | 1          | 0       | -1         | -2      |  |  |
| Rate of travel                                | 2      | 1          | 0       | -1         | -2      |  |  |
| Number of portages                            | 2      | 1          | 0       | -1         | -2      |  |  |

12. Please rate your overall satisfaction with today's flow.

|        | Rating     |         |                   |    |  |  |  |
|--------|------------|---------|-------------------|----|--|--|--|
| Sa     | tisfied    | Neutral | Unsatisfied       |    |  |  |  |
| Highly | Moderately | Neutrai | Moderately Highly |    |  |  |  |
| 2      | 1          | 0       | -1                | -2 |  |  |  |

| Please explain your rating: |  |  |
|-----------------------------|--|--|
|                             |  |  |
| -                           |  |  |

August 2010 D-40

### Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Upper Part of Reach (Put-in to |  |
|--------------------------------|--|

| Much Lower<br>Flow   |  | ly Higher<br>Flow | Mı        | uch Higher<br>Flow |
|--|--|-------------------|-----------|--------------------|
|  |  |                   |           |                    |
| D  |  |                   |           |                    |
| Please explain:  |  |                   |           |                    |
|  |  |                   |           |                    |
|  |  |                   |           |                    |
|  | ay's study and your experience, can you iden   | · -               | ge of flo | ows that wou       |
|  | ay's study and your experience, can you iden<br>r boating this part of the reach. ☐ Yes  | □ No              | ge of flo |                    |
| be suitable fo   | r boating this part of the reach. Yes  Stable: The lowest flow at which you would be willing to  | □ No yes          |           | ows that wou       |
| be suitable for Minimum Accept return to boat on   | r boating this part of the reach.  Yes  Stable: The lowest flow at which you would be willing to this run.  We will the thing to the thing to the thing run.   | □ No yes          |           |                    |
| Minimum Accepted return to boat on Optimal: The flot for your craft type   | r boating this part of the reach. Yes  Ptable: The lowest flow at which you would be willing to this run.  We that creates the best combination of characteristics and skill level.  Potable: The highest flow at which you would be willing | □ No yes          |           |                    |
| Minimum Accepted return to boat on Optimal: The flor for your craft type Maximum Acceptain Maximum Acceptain to the substitution of the substituti | r boating this part of the reach. Yes  Ptable: The lowest flow at which you would be willing to this run.  We that creates the best combination of characteristics and skill level.  Potable: The highest flow at which you would be willing | □ No yes          |           |                    |
| Minimum Accerreturn to boat on Optimal: The flor for your craft type Maximum Accerto return to boat  | r boating this part of the reach. Yes  Ptable: The lowest flow at which you would be willing to this run.  We that creates the best combination of characteristics and skill level.  Potable: The highest flow at which you would be willing | yes               | no        |                    |

August 2010 D-41

### Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

Single Flow Evaluation Form

Lower Part of Reach ( to Take-out)

| Much Lower<br>Flow  |   | y Higher<br>low    | Mı        | uch Higher<br>Flow |
|---|---|--------------------|-----------|--------------------|
|   |   |                    |           |                    |
| Please explain:   |   |                    |           |                    |
|   |   |                    |           |                    |
|   |   |                    |           |                    |
|   | ay's study and your experience, can you ident boating this part of the reach. ☐ Yes   | ify a ranç<br>□ No | ge of flo | ows that wo        |
| be suitable for   | boating this part of the reach.   |                    | ge of flo | ows that wo        |
| be suitable for   | boating this part of the reach. Yes   | No                 |           |                    |
| be suitable for  Minimum Accept return to boat on t   | boating this part of the reach.  Yes  table: The lowest flow at which you would be willing to his run.  | No                 |           |                    |
| Minimum Accept return to boat on to for your craft type                                       | boating this part of the reach. Yes  table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics and skill level.  table: The highest flow at which you would be willing | No                 |           |                    |
| Minimum Accept return to boat on to Coptimal: The flow for your craft type  Maximum Accept    | boating this part of the reach. Yes  table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics and skill level.  table: The highest flow at which you would be willing | No                 |           |                    |
| Minimum Accept return to boat on to for your craft type  Maximum Accept to return to boat the | boating this part of the reach. Yes  table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics and skill level.  table: The highest flow at which you would be willing | yes                | no        |                    |

August 2010 D-42

Middle Fork American River
French Meadows Dam to Middle Fork Interbay
Completed Single Flow
Evaluation Forms

### Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Name: Macy Burnham  | Date: 5 - 2 2 - 10                                  |
|---|---|
| River: Middle Anuan   |   |
| Put in location: French Mearlans Engin                            | $\sim 5 \sqrt{4 N}$ Put in time: $7.45$             |
| Take out location: 2 mily Below                                   | Take out time: 10:40                                |
| What type of craft did you use for this run?                      |   |
| What type(s) of watercraft would be suitab would be appropriate). | le for this reach at today's flow? (Circle all that |
| a. Kayak  | f. Cataraft   |
| b. Closed deck canoe  | g. Inflatable kayak                                 |
| c. Raft   | h. Other:   |
| e. Open canoe   |   |
| 3. Was access from the parking area to the r  a. Yes  b. No       | ver at the put-in adequate?                         |
| If No, please explain:  |   |
| 4. Was egress from the river to the parking a a. Yes b. No        | rea at the take-out adequate?                       |
| If No, please explain:  |   |
|   |   |
| 5. Would you typically boat this reach as a si                    | ngle or multi-day trip?                             |
| a. Single   |   |
| b. Multi-day  |   |
| c. Both   |   |

| 6. | If this reach was boated as a two-day run, did you notice any sites that would be suitable for |
|----|--|
|    | overnight camping?   |

| a. | N/A |                                |
|----|-----|--------------------------------|
|    | Yes |                                |
| C. | No  | X - Ord wood beldown Farenoigh |

| Description |             |
|-------------|-------------|
|             |             |
|             |             |
|             |             |
|             |             |
|             |             |
|             |             |
|             |             |
|             |             |
|             |             |
|             |             |
|             | Description |

| 7. | Estimate the number of times you stopped and got out of your boat for breaks, scouting, or | or |
|----|--|----|
|    | for portaging and estimate the total amount of time spent.                                 |    |

| Number of stops for breaks    | i  | Total minutes out of boat | 20 |
|-------------------------------|----|---------------------------|----|
| Number of stops for scouting  | 10 | Total minutes out of boat | 40 |
| Number of stops for portaging | 5  | Total minutes out of boat | 60 |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                                   |      | Port                  | age Difficulty          |                                       | Requires                           | Portage<br>Route            | Estimated       |
|-----------------------------------|------|-----------------------|-------------------------|---------------------------------------|------------------------------------|-----------------------------|-----------------|
| Location Description              | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult                | Technical<br>Portage<br>Ropes/Gear | (River<br>Right or<br>Left) | Portage<br>Time |
| Bisdop Imi<br>belowpur. N         |      |                       | ×                       |                                       |                                    | Left                        | 20mm            |
| wood in small<br>Stidy sort 1.7m. | X    |                       |                         | S S S S S S S S S S S S S S S S S S S |                                    | Right                       | 5mg             |
| Save Core 1.3ml                   |      | ana.                  | A                       |                                       |                                    | Le(4                        | 30 min          |
|                                   |      |                       |                         |                                       |                                    |                             |                 |
|                                   |      |                       |                         |                                       |                                    |                             |                 |
|                                   |      |                       |                         |                                       |                                    |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard                                     |
|----------------------|---|
| 1. Yes               | Excessive Amonts of wood in<br>The over from Fire |
| 2.                   |   |
| 3.                   |   |
| 4.                   |   |

- 10. How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI)
- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |        |            | Rating  |            |        |
|---|--------|------------|---------|------------|--------|
| Characteristic                                | Acce   | ptable     | Neutral | Unacce     | ptable |
|   | Highly | Moderately |         | Moderately | Highly |
| Boatability                                   | 2      |            | 0       | -1         | -2     |
| Availability of challenging technical boating | 2      | (1)        | 0       | -1         | -2     |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | -2     |
| Availability of whitewater "play areas"       | 2      | 1          | (0)     | -1         | -2     |
| Overall whitewater challenge                  | 2      | (1)        | 0       | -1         | -2     |
| Safety  | 2      | 1          | 0       | -1         | -2     |
| Length of run                                 | 2      | (1)        | 0       | -1         | -2     |
| Rate of travel                                | 2      | 1          | 0       | -1         | -2     |
| Number of portages                            | 2      | 1          | 0       | -1         | -2     |

Llow Factor was word in river not y low

12. Please rate your overall satisfaction with today's flow.

|        |            | Rating  |            |           |
|--------|------------|---------|------------|-----------|
|        | itisfied   | Neutral | Un         | satisfied |
| Highly | Moderately | Neutrai | Moderately | Highly    |
| 2      |            | 0       | -1         | -2        |

| Please explain your rating: ੍ਰ |                         | 1 . F     |        |
|--------------------------------|-------------------------|-----------|--------|
|                                | Itwould be an acceptail | k (revel, | woodin |
| The rule was T                 | e Major destide         |           |        |

### PLACER COUNTY WATER AGENCY

# Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Much Lower<br>Flow  | Slightly Lower<br>Flow   | About the Same<br>Flow   | Slightly<br>Flo               |                         | М        | uch Higher<br>Flow       |
|---|--|--|-------------------------------|-------------------------|----------|--------------------------|
|   |  | ×  |                               | ]                       |          |                          |
| Please explain:   |  |  |                               |                         |          |                          |
| Flow 600  | £  | - Sakkir v evv v   |                               |                         |          | M. BYAMINIPET .          |
|   |  |  |                               |                         |          |                          |
|   |  |  |                               |                         |          |                          |
|   |  |  |                               |                         |          |                          |
|   |  | r experience, can yof<br>the reach.                                  |                               | y a rang<br>∐ No        | ge of fl | lows that w              |
|   |  | r experience, can ye<br>of the reach.                                |                               | y a rang<br>∐ No        | ge of fl | lows that w              |
|   |  |  |                               | y a rang<br>□ No<br>yes | ge of fl | lows that w              |
| be suitable for   | boating this part of   |  | es                            | □ No                    |          | ·[···                    |
| be suitable for  Minimum Accept return to boat on to  | able: The lowest flow his run.   | of the reach. Ye   | es<br>willing to              | □ No                    |          | Flow (cfs                |
| Minimum Accept<br>return to boat on to<br>Optimal: The flow<br>for your craft type<br>Maximum Accept            | able: The lowest flow his run. v that creates the best and skill level. table: The highest flow          | of the reach. Ye   | willing to                    | □ No                    |          | Flow (cfs                |
| Minimum Accept<br>return to boat on to<br>Optimal: The flow<br>for your craft type                              | able: The lowest flow his run. v that creates the best and skill level. table: The highest flow          | at which you would be  | willing to                    | □ No                    |          | Flow (cfs 200            |
| Minimum Accept return to boat on to Optimal: The flow for your craft type  Maximum Accept to return to boat the | able: The lowest flow his run. v that creates the best and skill level. table: The highest flow his run. | at which you would be combination of charact w at which you would be | willing to eristics e willing | yes                     | no       | Flow (cfs 200            |
| Minimum Accept return to boat on to Optimal: The flow for your craft type Maximum Accept to return to boat the  | able: The lowest flow his run. v that creates the best and skill level. table: The highest flow his run. | at which you would be  | willing to eristics e willing | yes this flov           | no       | 700<br>200<br>250<br>350 |

### PLACER COUNTY WATER AGENCY

# Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Much Lower<br>Flow  |  | Higher<br>ow     | Mu        | uch Higher<br>Flow |
|---|--|------------------|-----------|--------------------|
|   |  |                  |           |                    |
| Please explain:   |  |                  |           |                    |
|   |  |                  |           |                    |
|   |  |                  |           |                    |
|   |  |                  |           |                    |
|   | ay's study and your experience, can you identifice resident to the reach.     Yes  | fy a ran<br>☐ No | ge of flo | ows that wo        |
|   |  | •                | ge of flo | ows that wo        |
|   |  | •                | ge of flo | ows that wo        |
| be suitable fo  | r boating this part of the reach.  Yes  table: The lowest flow at which you would be willing to  | □ No             | T         |                    |
| be suitable fo  | r boating this part of the reach.  Yes  table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics  | □ No             | T         |                    |
| Minimum Accepreturn to boat on Optimal: The flo   | r boating this part of the reach.  Yes  table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics and skill level.  btable: The highest flow at which you would be willing | □ No             | T         |                    |
| Minimum Accepreturn to boat on Optimal: The flofor your craft type Maximum Accep                      | r boating this part of the reach.  Yes  table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics and skill level.  btable: The highest flow at which you would be willing | □ No             | T         |                    |
| Minimum Accepreturn to boat on Optimal: The flo for your craft type Maximum Accepto return to boat to | r boating this part of the reach.  Yes  table: The lowest flow at which you would be willing to this run.  w that creates the best combination of characteristics and skill level.  btable: The highest flow at which you would be willing | yes              | no        |                    |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study

Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Nar | ne: CHARUE CENTER Date: 5/29   |   |
|-----|--|---|
| Riv | er: UPPER NF AMERICAN  |   |
| Put | in location: French meadow gacquag station Put in time: 7145   |   |
|     | e out location: 2 miles dawn RLT Take out time: 10:40  |   |
| 1.  | What type of craft did you use for this run?   |   |
| 2.  | What type(s) of watercraft would be suitable for this reach at today's flow? (Circle all that would be appropriate). |   |
|     | (a. Kayak f. Cataraft  |   |
|     | b. Closed deck canoe g. Inflatable kayak   |   |
|     | c. Raft h. Other:  |   |
|     | e. Open canoe  |   |
| 3.  | Was access from the parking area to the river at the put-in adequate?  |   |
|     | a. Yes 🖾   |   |
|     | b. No 🗌  |   |
|     | If No, please explain:   |   |
| 4.  | Was egress from the river to the parking area at the take-out adequate?  a. Yes   b. No   □                          |   |
|     | If No, please explain:   |   |
|     |  | _ |
| 5.  | Would you typically boat this reach as a single or multi-day trip?   |   |
|     | a. Single  |   |
|     | b. Multi-day 🔀   |   |
|     | c. Both  |   |

| a. N/A ☐<br>b. Yes ඎ<br>c. No ☒  |          |   |               |                 |          |
|--|----------|---|---------------|-----------------|----------|
| Location   |          | D | escription    |                 |          |
| 1.   |          |   |               |                 |          |
| 2.   |          |   |               |                 |          |
| 3.   |          |   |               |                 |          |
| 4.   |          |   |               |                 |          |
| Estimate the number of times   |          |   |               | or breaks, scou | ting     |
|  |          |   |               |                 |          |
|  | ***      |   |               | A               |          |
| for portaging and estimate the<br>Number of stops for breaks<br>Number of stops for scouting | <u>Ø</u> |   | s out of boat | 30 mir          | <u> </u> |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                      |      | Port                  | age Difficulty          |                        | Requires   | Portage<br>Route            | Estimated       |
|----------------------|------|-----------------------|-------------------------|------------------------|--|-----------------------------|-----------------|
| Location Description | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear   | (River<br>Right or<br>Left) | Portage<br>Time |
| loas                 | Ø    | manner.               |                         |                        |  |                             |                 |
|                      |      |                       |                         |                        |  |                             |                 |
| 4                    |      |                       |                         |                        | and the same of th |                             |                 |
| I mile down          |      |                       | Ø                       |                        |  | LFT                         | 20min           |
|                      | ***  |                       |                         | Processor              |  |                             |                 |
|                      |      |                       |                         |                        |  |                             |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard             |
|----------------------|---------------------------|
| Tons of LOGS         | SAFETY HAZATO/LOG ISSUES. |
| 2.                   |                           |
| 3.                   |                           |
| 4.                   |                           |

- 10. How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI)
- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |        |            | Rating           |            |         | 7   |
|---|--------|------------|------------------|------------|---------|-----|
| Characteristic                                | Acce   | ptable     | Neutral          | Unacce     | eptable |     |
|   | Highly | Moderately |                  | Moderately | Highly  |     |
| Boatability                                   | 2      | 1          | 0                | -1         | -2      |     |
| Availability of challenging technical boating | 2      | 1          | 0                | -1         | -2      |     |
| Availability of powerful hydraulics           | 2      | 1          | 0                | -1         | -2      |     |
| Availability of whitewater "play areas"       | 2      | 1          | 0                | -1         | -2      | A)H |
| Overall whitewater challenge                  | 2      | 1          | 0                | -1         | -2      |     |
| Safety  | 2      | 1          | 0                | <u>(1)</u> | -2      |     |
| Length of run                                 | 2      | 1          | ( <sup>0</sup> ) | -1         | -2      |     |
| Rate of travel                                | 2      | 1          | 0                | (-1)       | -2      |     |
| Number of portages                            | (2)    | 1          | 0                | -1         | -2      |     |

12. Please rate your overall satisfaction with today's flow.

| Rating         |            |         |            |           |
|----------------|------------|---------|------------|-----------|
| Sa             | itisfied   | Neutral | Un         | satisfied |
| Highly         | Moderately | Neutrai | Moderately | Highly    |
| $\binom{2}{2}$ | 1          | 0       | -1         | -2        |

| Please explain your rating: |  |
|-----------------------------|--|
|                             |  |

#### **PLACER COUNTY WATER AGENCY**

## Middle Fork American River Project Relicensing

### Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

|   | Slightly Lower<br>Flow | About the Same Flow     | Slightly Higher Flow | M         | uch Higher<br>Flow |
|---|------------------------|-------------------------|----------------------|-----------|--------------------|
|   |                        | ×                       |                      |           |                    |
|   |                        |                         |                      |           |                    |
| lease explain:                            |                        |                         |                      |           |                    |
|   |                        |                         |                      |           |                    |
|   |                        |                         |                      |           |                    |
|   |                        | r experience, can ye    |                      | ige of fl | ows that wo        |
| be suitable for i                         | poating this part o    | of the reach. 🛚 🏻 Ye    | is ∐ NO              |           |                    |
|   |                        |                         | yes                  | no        | Flow (cfs)         |
| Minimum Accepta<br>return to boat on th   |                        | at which you would be   | willing to           |           | 200                |
| Optimal: The flow for your craft type a   |                        | combination of charact  | eristics             |           | 250                |
| . ,                                       | able: The highest flo  | w at which you would be | e willing            |           | 300                |
|   | s run.                 |                         |                      |           |                    |
| Maximum Accepta                           | s run.                 |                         |                      |           |                    |
| Maximum Accepta<br>to return to boat this |                        | omments about the       | reach at this flo    | w.        |                    |

### **PLACER COUNTY WATER AGENCY** Middle Fork American River Project Relicensing

### Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Much Lower<br>Flow  | Slightly Lower A   | About the Same<br>Flow | Slightly<br>Flo |                  | Mu        | uch Higher<br>Flow |
|---|--|------------------------|-----------------|------------------|-----------|--------------------|
|   |  |                        |                 | ]                |           |                    |
| lease explain:  |  |                        |                 |                  |           |                    |
|   |  |                        |                 |                  |           |                    |
|   |  |                        |                 |                  |           |                    |
|   |  |                        |                 |                  |           |                    |
|   |  |                        |                 |                  |           |                    |
|   | y's study and your ex<br>boating this part of th   |                        |                 | y a rang<br>□ No | ge of flo | ows that wo        |
|   | y's study and your ex<br>boating this part of th   |                        |                 |                  | ge of flo | ows that wo        |
|   |  |                        |                 |                  | ge of flo |                    |
| be suitable for   | boating this part of the   | he reach. 🗌 Ye         | 5               | □ No             |           |                    |
| be suitable for  Minimum Accepta return to boat on the                                      | boating this part of the boating this part of the boating this run.  | he reach. Yes          | villing to      | □ No             |           |                    |
| Minimum Acceptareturn to boat on the Optimal: The flow for your craft type a                | boating this part of the boating this part of the boating the lowest flow at whis run.  That creates the best contained skill level.  The highest flow at the boat flow at the b | he reach. Yes          | villing to      | □ No             |           | ows that wo        |
| Minimum Acceptareturn to boat on the Optimal: The flow for your craft type a Maximum Accept | boating this part of the boating this part of the boating the lowest flow at whis run.  That creates the best contained skill level.  The highest flow at the boat flow at the b | he reach. Yes          | villing to      | □ No             |           |                    |

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study

Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Name: Davin MaQuoid  | Date: 5/22/2010   |
|--|---|
| River: Mt Avertag  | ,   |
| Put in location: French Meadows  | Put in time: 7945   |
| Take out location: 2 miles down  | Take out time: ध्याप                                      |
| What type of craft did you use for this  | run? kayak  |
| <ol><li>What type(s) of watercraft would be s<br/>would be appropriate).</li></ol> | suitable for this reach at today's flow? (Circle all that |
| É) Kayak   | f. Cataraft   |
| b. Closed deck canoe   | g. Inflatable kayak                                       |
| c. Raft  | h. Other:   |
| e. Open canoe  |   |
| 3. Was access from the parking area to   | the river at the put-in adequate?                         |
| a. Yes 🔣   |   |
| b. No 🗀  |   |
| If No, please explain:   |   |
| 4. Was egress from the river to the park  a. Yes 🔽  b. No 🗌                        | ring area at the take-out adequate?                       |
| If No, please explain:   | ms aresone  |
|  |   |
| 5. Would you typically boat this reach a   | s a single or multi-day trip?                             |
| a. Single  |   |
| b. Multi-day   |   |
| c. Both  |   |

6.

7.

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| vernight camping?            |    |                               |                      |
|------------------------------|----|-------------------------------|----------------------|
| a. N/A 🗌                     |    |                               |                      |
| b.Yes 🗽                      |    |                               |                      |
| c. No 🗌                      |    |                               |                      |
| Location                     |    | Description                   |                      |
| 1. 2 unites is               |    |                               |                      |
| 2.                           |    |                               |                      |
| 3.                           |    |                               |                      |
| <b>1</b> .                   |    |                               |                      |
| stimate the number of times  |    | d and got out of your boat fo | or breaks, scouting, |
| lumber of stops for breaks   | 0  | Total minutes out of boat     |                      |
| lumber of stops for scouting | 10 | Total minutes out of boat     | 10                   |
|                              | 5+ | Total minutes out of boat     | us                   |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                      |      | Port                  | age Difficulty          |                        | Requires                           | Portage<br>Route | Estimated       |
|----------------------|------|-----------------------|-------------------------|------------------------|------------------------------------|------------------|-----------------|
| Location Description | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River           | Portage<br>Time |
| 1 mile               |      |                       | X                       |                        |                                    | 1ef              | 30              |
| I mile               | 4    |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      | e recording           |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard |
|----------------------|---------------|
| 1. Every whom        | Downed trees  |
| 2.                   |               |
| 3.                   |               |
| 4.                   |               |
|                      |               |

- 10. How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI) V
- 11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   |        |            | Rating  |            |        |
|---|--------|------------|---------|------------|--------|
| Characteristic                                | Acce   | ptable     | Neutral | Unacce     | ptable |
|   | Highly | Moderately |         | Moderately | Highly |
| Boatability                                   | 2      | 1          | 0       | (1)        | -2     |
| Availability of challenging technical boating | 2      | 1          | 0       | -1         | -2     |
| Availability of powerful hydraulics           | 2      | Ô          | 0       | -1         | -2     |
| Availability of whitewater "play areas"       | 2      | 1          | 0       | -1         | -2     |
| Overall whitewater challenge                  | 2      | 1          | 6)      | -1         | -2     |
| Safety  | 2      | 1          | 0       | 0          | -2     |
| Length of run                                 | 2      | 1          | 0       | -1         | -2     |
| Rate of travel                                | 2      | 1          | 0       | -1         | (-2)   |
| Number of portages                            | 2      | 1          | 0       | (1)        | -2     |

12. Please rate your overall satisfaction with today's flow.

|        |            | Rating  |            |          |
|--------|------------|---------|------------|----------|
|        | tisfied    | Neutral |            | atisfied |
| Highly | Moderately | Neutrai | Moderately | Highly   |
| (2)    | 1          | 0       | -1         | -2       |

| Please explain your rating: | eat | perfect | flow. | just | too | mal | logs |  |
|-----------------------------|-----|---------|-------|------|-----|-----|------|--|
|                             |     |         | )     | J    |     |     |      |  |
|                             |     |         |       |      |     |     |      |  |

#### PLACER COUNTY WATER AGENCY

# Middle Fork American River Project Relicensing Whitewater Boating Flow Study

# Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Much Lower<br>Flow   |  | Higher<br>ow     | M       | luch Higher<br>Flow |
|--|--|------------------|---------|---------------------|
|  |  |                  |         |                     |
| Please explain:  |  |                  |         |                     |
| теазе ехріант.   |  |                  |         |                     |
|  |  |                  |         |                     |
|  | Lauberren  |                  |         |                     |
|  |  |                  |         |                     |
|  | ay's study and your experience, can you identify booting this part of the reach.   |                  | ge of f | lows that wo        |
|  | ay's study and your experience, can you identify boating this part of the reach.   | fy a ran<br>□ No | ge of f | lows that wo        |
|  |  |                  | ge of f | lows that wo        |
| be suitable for  | boating this part of the reach. X Yes  | □ No             |         |                     |
| be suitable for  Minimum Accept return to boat on t                    | boating this part of the reach.  Yes  table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics                                   | □ No             |         | Flow (cfs)          |
| Minimum Accept return to boat on to for your craft type                | table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics and skill level.  table: The highest flow at which you would be willing | □ No             |         | Flow (cfs)          |
| Minimum Accept return to boat on to for your craft type Maximum Accept | table: The lowest flow at which you would be willing to his run.  w that creates the best combination of characteristics and skill level.  table: The highest flow at which you would be willing | □ No             |         | Flow (cfs) 200 251  |

### **PLACER COUNTY WATER AGENCY** Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Much Lower<br>Flow   | Slightly Lower About the Same Slightly Flow Flow  | tly Higher<br>Flow  | M        | uch Higher<br>Flow |
|--|---|---------------------|----------|--------------------|
|  |   |                     |          |                    |
| Please explain:  |   |                     |          |                    |
|  |   |                     |          |                    |
|  |   |                     |          |                    |
|  |   |                     |          |                    |
| Based on toda  | ay's study and your experience, can you ide   | ntify a ran         | ge of fl | ows that wo        |
|  | ay's study and your experience, can you ide<br>boating this part of the reach. ☐ Yes  | ntify a ran<br>□ No | ge of fl | ows that wo        |
|  |   | •                   | ge of fl | ows that wo        |
| be suitable for  | boating this part of the reach. Yes   | ☐ No                |          |                    |
| be suitable for  Minimum Accept return to boat on t  | boating this part of the reach. Yes  Table: The lowest flow at which you would be willing his run.  The toward the best combination of characteristics  | ☐ No                |          |                    |
| Minimum Accept<br>return to boat on t<br>Optimal: The flow<br>for your craft type                  | boating this part of the reach. Yes  Table: The lowest flow at which you would be willing his run.  That creates the best combination of characteristics and skill level.  The highest flow at which you would be willing the highest flow at which you would be willing. | yes                 |          |                    |
| Minimum Accept<br>return to boat on t<br>Optimal: The flow<br>for your craft type<br>Maximum Accep | boating this part of the reach. Yes  Table: The lowest flow at which you would be willing his run.  That creates the best combination of characteristics and skill level.  The highest flow at which you would be willing the highest flow at which you would be willing. | yes                 |          |                    |

August 2010 D-60

# PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing Whitewater Boating Flow Study

Whitewater Boating Flow Study
Middle Fork American River – French Meadows Dam to MF Interbay
Single Flow Evaluation Form

| Name: Thomas Moo  | Re                              | Date: 5 22 10                   |
|---|---------------------------------|---------------------------------|
| River: Mid F MMers  |                                 |                                 |
| Put in location: French M   | nedows 1                        | Put in time: <u>7'. 45</u>      |
| Take out location: 2 m' bel   | A                               | Take out time: 10 : 45          |
| What type of craft did you use for  | or this run? KON(()             |                                 |
|   |                                 |                                 |
| <ol><li>What type(s) of watercraft would<br/>would be appropriate).</li></ol> | the suitable for this reach at  | today's flow'? (Circle all that |
| (a.) Kayak  | f. Cataraft                     |                                 |
| b. Closed deck canoe  | g. Inflatable kayak             |                                 |
| c. Raft   | h. Other:                       |                                 |
| e. Open canoe   |                                 |                                 |
| Was access from the parking ar  | ea to the river at the put-in a | dequate?                        |
| a. Yes 💢  | ·                               | ·                               |
| b. No 🗌   |                                 |                                 |
|   |                                 |                                 |
| If No, please explain:  |                                 |                                 |
|   | A AMA                           |                                 |
| ANALASTA ANTA TOTAL   |                                 |                                 |
| 4. Was egress from the river to the   | parking area at the take-out    | adequate?                       |
| a. Yes 🗵  |                                 |                                 |
| b. No 🗌   |                                 |                                 |
|   |                                 |                                 |
| If No, please explain:  |                                 |                                 |
|   |                                 | A SALVANIA -                    |
|   | ALCOHOL                         |                                 |
| 5. Would you typically boat this rea  | ach as a single or multi-day t  | rip?                            |
| a. Single   | •                               |                                 |
| b. Multi-day ∑⊠   |                                 |                                 |
| c. Both   |                                 |                                 |

| a. N/A ☐<br>b. Yes ☒<br>c. No ☐ |  |
|---------------------------------|--|
| Location                        | Description  |
| 2 mi in                         |  |
| 2.                              |  |
| 3.                              |  |
| I.                              |  |
|                                 |  |
|                                 | s you stopped and got out of your boat for breaks, scouting<br>e total amount of time spent. |

8. Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level).

|                      |      | Port                  | age Difficulty          |                        | Requires                           | Portage<br>Route | Estimated       |
|----------------------|------|-----------------------|-------------------------|------------------------|------------------------------------|------------------|-----------------|
| Location Description | Easy | Slightly<br>Difficult | Moderately<br>Difficult | Extremely<br>Difficult | Technical<br>Portage<br>Ropes/Gear | (River           | Portage<br>Time |
| IW.                  |      |                       | 赵                       |                        | No                                 | Lame             | 30min           |
| many logs            |      |                       | Ø                       |                        | wo                                 | LZE              |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |
|                      |      |                       |                         |                        |                                    | ٠                |                 |
|                      |      |                       |                         |                        |                                    |                  |                 |

9. Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below.

| Location Description | Safety Hazard |
|----------------------|---------------|
| first 2m;            | may logs      |
| 2.                   |               |
|                      |               |
| 3.                   |               |
|                      |               |
| 4.                   |               |
|                      |               |
| L                    |               |

| 10. How would yo | ou rate the whitewat | er difficulty of t | his run? (Us | e American Whit | ewater's |
|------------------|----------------------|--------------------|--------------|-----------------|----------|
|                  | Scale of Whitewater  |                    |              |                 |          |

11. Please evaluate this flow for each of the following characteristics. (Circle one number for each characteristic).

|   | Rating |            |         |            |        |  |
|---|--------|------------|---------|------------|--------|--|
| Characteristic                                | Acce   | ptable     | Neutral | Unacce     | ptable |  |
|   | Highly | Moderately |         | Moderately | Highly |  |
| Boatability                                   | 2      |            | 0       | -1         | -2     |  |
| Availability of challenging technical boating | 2      | (1)        | 0       | -1         | -2     |  |
| Availability of powerful hydraulics           | 2      | 1          | 0       | -1         | -2     |  |
| Availability of whitewater "play areas"       | 2      | 1          | (6)     | -1         | -2     |  |
| Overall whitewater challenge                  | 2      | (1)        | 0       | -1         | -2     |  |
| Safety  | 2      | 1          | 0       | (1)        | -2     |  |
| Length of run                                 | 2      | (1)        | 0       | -1         | -2     |  |
| Rate of travel                                | 2      | 1          | 0       | (-1)       | ik.    |  |
| Number of portages                            | 2      | 1          | 0       | -1         | (-2)   |  |

12. Please rate your overall satisfaction with today's flow.

|        | Rating     |         |            |         |  |  |  |  |
|--------|------------|---------|------------|---------|--|--|--|--|
| Sa     | tisfied    | Neutral | Unsa       | tisfied |  |  |  |  |
| Highly | Moderately | Neutrai | Moderately | Highly  |  |  |  |  |
| (2)    | 1          | 0       | -1         | -2      |  |  |  |  |

| Please explain your  | rating: | for | a first | time |       |
|--|---------|-----|---------|------|-------|
| And the second s | •       |     |         |      | J100- |

### PLACER COUNTY WATER AGENCY

# Middle Fork American River Project Relicensing

### Whitewater Boating Flow Study Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Much Lower<br>Flow  | Slightly Lower Flow  | About the Same<br>Flow  | Slightly<br>Flo | _             | M        | luch Higher<br>Flow |
|---|--|---|-----------------|---------------|----------|---------------------|
|   |  | X   |                 |               |          |                     |
| ease explain:   |  |   |                 |               |          |                     |
| :азе ехріаііі.<br>  |  |   |                 |               |          |                     |
|   |  |   |                 |               |          |                     |
|   |  |   |                 |               |          |                     |
|   |  |   |                 |               |          |                     |
|   |  | experience, can your fithe reach.                                   |                 | y a ran<br>No | ge of fl | lows that wo        |
|   |  |   |                 | _             | ge of fi | lows that wo        |
| be suitable for   | boating this part o  | f the reach. TYes   |                 | □ No          | ge of fi | Flow (cfs)          |
| be suitable for   | boating this part o  |   |                 | □ No          | -        | 1                   |
| be suitable for  Minimum Accepta eturn to boat on the  Descriptional: The flow  | boating this part of able: The lowest flown is run.  | f the reach. TYes   | villing to      | □ No          | -        | Flow (cfs)          |
| De suitable for  Winimum Accepta eturn to boat on the  Dptimal: The flow or your craft type a                                   | boating this part of able: The lowest flow his run.  If that creates the best and skill level.  Itable: The highest flow         | f the reach. Yes  | villing to      | □ No          | -        | Flow (cfs)          |
| Minimum Accepta<br>eturn to boat on the<br>Optimal: The flow<br>or your craft type a  | boating this part of able: The lowest flow his run.  If that creates the best and skill level.  Itable: The highest flow         | of the reach. Yes at which you would be we combination of character | villing to      | □ No          | -        | Flow (cfs)          |
| be suitable for  linimum Accepta eturn to boat on the Optimal: The flow or your craft type a laximum Accept o return to boat th | boating this part of able: The lowest flow his run.  If that creates the best and skill level.  Itable: The highest flow is run. | of the reach. Yes at which you would be we combination of character | rilling to      | yes X         | no       | Flow (cfs)          |

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing

Whitewater Boating Flow Study
Middle Fork American River – French Meadows Dam to MF Interbay Single Flow Evaluation Form

| Flow                             | Slightly Lower<br>Flow                      | About the Same Flow  | Slightly F |        | 1010                                    | uch Higher<br>Flow |
|----------------------------------|---|--|------------|--------|---|--------------------|
| ease explain:                    |   |  |            |        |   |                    |
|                                  |   |  |            |        |   |                    |
|                                  |   | THE STATE OF MANAGEMENT AND THE STATE OF THE |            |        |   |                    |
|                                  |   | experience, can you<br>f the reach.  | ı identify | a rang | ge of flo                               | ows that wo        |
| be suitable loi                  | boating this part o                         | tille reach. 📋 res   | ı          | 140    |   |                    |
|                                  |   |  |            | yes    | no                                      | Flow (cfs)         |
| Minimum Accepteturn to boat on t |   | at which you would be wi   | lling to   |        | *************************************** |                    |
|                                  | w that creates the best<br>and skill level. | combination of character   | istics     |        |   |                    |
| tor your craft type              | table: The highest flov                     | v at which you would be v  | willing    |        |   |                    |
| Maximum Accep                    | his run.                                    |  |            |        |   |                    |
|                                  | his run.                                    |  |            |        | <u> </u>                                |                    |



#### APPENDIX E

**Single Flow Evaluation Form Summary Data** 

Middle Fork American River

Middle Fork Interbay to Ralston Afterbay

Single Flow Evaluation Form

FINAL

Middle Fork Interbay to Ralston Afterbay: Single Flow Evaluation Survey Results (May 8, 2010).

|          | Question  |  |   | Respondent <sup>1</sup>   |  |  |
|----------|---|--|---|---|--|--|
|          |   | EP   | KS  | BB  | SL   | PB   |
| Q1       | What type of craft did you use for this run?  | Kayak  | Kayak   | Kayak   | Kayak  | Kayak  |
| Q2       | What type(s) of watercraft would be suitable for this reach at today's flow? (Circle all that would be appropriate).  | Kayak<br>Closed deck canoe   | Kayak<br>Raft   | Kayak<br>Closed deck canoe  | Kayak<br>Closed deck canoe   | Kayak<br>Closed deck canoe   |
| Q3       | Was access from the parking area to the river at the put-in adequate?   | Yes  | Yes   | No  | No   | Yes  |
|          | If No, please explain   |  |   | Steep, difficult,<br>slippery trail   | Had to use ropes to lower boats to the water   |  |
| Q4       | Was egress from the river to the parking area at the take-<br>out adequate?   | Yes  | Yes   | Yes   | Yes  | Yes  |
| Q5       | Would you typically boat this reach as a single or multi-day trip?  | Single   | Single  | Single day<br>Multi-day   | Single   | Single   |
| Q6       | If this reach was boated as a two-day run, did you notice any sites that would be suitable for overnight camping?   | N/A  | N/A   | Clear bench on river<br>right about 1/2 way<br>down<br>Clear bench on river<br>right about 3/4 of<br>the way down | N/A  | Middle section of<br>river - lot of gravel<br>and wooded beaches                                   |
| Q7       | Estimate the number of times you stopped and got out of your boat for breaks, scouting, or for portaging and estimate the total amount of time spent.           |  |   |   |  |  |
|          | Number of stops for breaks  | 2  | 1   | 1   | 1  | 1  |
|          | Total minutes out of boat   |  | 20  | 30  | 35   | 30   |
|          | Number of stops for scouting  | 12   | Х   | 12  | 15   | 12   |
|          | Total minutes out of boat   |  | Х   | 60  | 30   | 90   |
|          | Number of stops for portaging   | 4  | Х   | 2.5   | 3  | 3  |
| <u> </u> | Total minutes out of boat   |  | X   | 45  | 30   | 60   |
| Q8       | Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level) <sup>2</sup> . | Slightly difficult - RL - 5<br>minutes   | Second steep section<br>Moderately difficult -<br>RR - 20 minutes | Long rapid with<br>wood about 1/3 of<br>the way down -<br>Slightly difficult - RL<br>5 minutes                    | Near put in - Easy -<br>RR - 3 minutes   | Lower steep section -<br>Moderately difficult -<br>Lowered boats with<br>rope - RL - 30<br>minutes |
|          |   | Upper Part of lower<br>steep section -<br>Moderately difficult -<br>RL - 5 minutes |   | 1st rapid with large<br>sieve about 3/4 of<br>the way down -<br>Moderate difficult -<br>RL - 15 minutes           | About 1.5 miles<br>upstream of take-out<br>Moderately difficult -<br>RR - 15 minutes | Lower steep section -<br>Easy - RR - 5<br>minutes  |
|          |   | Approximate 1/2 mile<br>above falls - Extremely<br>difficult - RL - 20<br>minutes  |   | 2nd rapid with wood<br>3/4 - Slightly difficult<br>- RL - 30 minutes  | About 1.5 miles<br>upstream of take-out<br>Slightly difficult - RR -<br>12 minutes   | Lower steep section -<br>Slightly difficult - RR -<br>20 minutes                                   |

FINAL

Middle Fork Interbay to Ralston Afterbay: Single Flow Evaluation Survey Results (May 8, 2010).

|     | Question  |  |  | Respondent <sup>1</sup>  |   |  |
|-----|---|--|--|--|---|--|
|     |   | EP   | KS   | BB   | SL  | PB   |
| Q9  | Did you observe any specific safety hazards beyond those<br>normally encountered running a river of this difficulty at this<br>flow? If so, please describe them below  | Numerous logs and wood throughout run  | х  | Several downed trees along river   | Wood throughout<br>the run  | Trees in river channel   |
|     |   | Trees growing in channel throughout run  |  |  | Trees<br>in channel   |  |
|     | How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI) | V  | IV/V   | V  | V   | ٧  |
| Q11 | Please evaluate this flow for each of the following characteristics.  |  |  |  |   |  |
|     | Boatability   | 2  | 2  | 2  | 2   | 2  |
|     | Availability of challenging technical boating   |  | 2  | 2  | 2   | 2  |
|     | Availability of powerful hydraulics   | 1  | 2  | 2  | 1   | 2  |
|     | Availability of whitewater "play areas"   | 0  | 1  | -2   | -2  | -1   |
|     | Overall whitewater challenge  |  | 1  | 2  | 1   | 2  |
|     | Safety  | 0  | 1  | 1  | 1   | 2  |
|     | Length of run   | 2  | 1  | 1  | 1   | 2  |
|     | Rate of travel  | 2  | 1  | 1  | 1   | 2  |
|     | Number of portages  |  | 2  | 1  | 1   | 2  |
| Q12 | Please rate your overall satisfaction with today's flow.  | 2  | 2  | 2  | 2   | 2  |
|     | Please explain your rating -  | Maybe 100 cfs more would be better - Things were covered, channels clean for the most part | Great flow - would not want any less water - could use 100+ more cfs - it was very manageable for first time run | Flow of 480 was perfect - too much lower or higher would not be acceptable | Perfect flow - less<br>would be very rocky<br>in places - more flow<br>could produce big<br>holes | The run has plenty of technical rapids at the beginning and end of the run - Middle section consisting of great "read and run" rapids - Scenery and wildlife fantastic  The flow made for great channels in all rapids when needed - The flow covered a lot of the smaller boulders in the middle read and run section making for a much clear run |

FINAL

Middle Fork Interbay to Ralston Afterbay: Single Flow Evaluation Survey Results (May 8, 2010).

|     | Question  |                      |                      | Respondent <sup>1</sup>                       |                |   |
|-----|---|----------------------|----------------------|---|----------------|---|
|     |   | EP                   | KS                   | BB  | SL             | PB  |
| Q13 | In general, would you prefer a flow that was higher, lower, or about the same as this flow  | Slightly higher flow | Slightly higher flow | About the same                                | About the same | Slightly higher flow  |
|     | Please explain  | Maybe 100cfs more    | Maybe 100cfs more    | Much higher or<br>lower would be<br>dangerous |                | A similar to slightly higher flow would clean up the flow in the tight channels                             |
| Q14 | Based on today's study and your experience, can you identify a range of flows that would be suitable for boating this part of the reach | Yes                  | Yes                  | Yes   | Yes            | Yes   |
|     | Minimum Acceptable: The lowest flow at which you would be willing to return to boat on this run.  | 450                  | 400                  | 400   | 425            | 400   |
|     | Optimal: The flow that creates the best combination of characteristics for your craft type and skill level.                             | 550                  | 520                  | 480   | 475            | 500   |
|     | Maximum Acceptable: The highest flow at which you would be willing to return to boat this run.  | 600                  | 650                  | 550   | 525            | 600   |
| Q15 | Please provide any additional comments about the reach at this flow   |                      |                      |   |                | Great wildlife - 3<br>different black bear<br>sightings - great blue<br>herons - ducks -<br>awesome scenery |

Flow at put-in: 425 cfs Flow at take-out 475

Upramp travel time: about 4 hours to hit gage - 5.5 hours to stabilize

Downramp travel time: about 3.25 hours to hit gage

<sup>1</sup>Boating Team Members: EP (Eric Petlock), KS (Katie Scott), BB (J. Brad Brewer), SL (Scott Ligure), PB (Phil Boyer)

<sup>&</sup>lt;sup>2</sup>RL=river left; RR=river right

Middle Fork American River
French Meadows Dam to Middle Fork Interbay
Single Flow Evaluation Forms

FINAL
French Meadow Dam to Middle Fork Interbay: Single Flow Evaluation Survey Results (May 22, 2010).

|     | Question  | Respondent <sup>1</sup>  |  |  |  |  |
|-----|---|--|--|--|--|--|
|     |   | DM   | MB   | CC   | TM   |  |
| Q1  | What type of craft did you use for this run?  | Kayak  | Kayak  | Kayak  | Kayak  |  |
| Q2  | What type(s) of watercraft would be suitable for this reach at today's flow? (Circle all that would be appropriate).  | Kayak  | Kayak  | Kayak  | Kayak  |  |
| Q3  | Was access from the parking area to the river at the put-in adequate?   | Yes  | Yes  | Yes  | Yes  |  |
| Q4  | Was egress from the river to the parking area at the take-out adequate?   | Yes  | Yes  | Yes  | Yes  |  |
| Q5  | Would you typically boat this reach as a single or multi-day trip?  | Multi-day  | Multi-day  | Multi-day  | Multi-day  |  |
| Q6  | If this reach was boated as a two-day run, did you notice any sites that would be suitable for overnight camping?   | N/A  | N/A  | N/A  | N/A  |  |
| Q7  | Estimate the number of times you stopped and got out of your boat for breaks, scouting, or for portaging and estimate the total amount of time spent.                   |  |  |  |  |  |
|     | Number of stops for breaks  | 0  | 1  | 0  | 0  |  |
|     | Total minutes out of boat   | 0  | 20   | 0  | 0  |  |
|     | Number of stops for scouting  | 10   | 10   | 10   | 10+  |  |
|     | Total minutes out of boat   | 10   | 40   | 30   | 30   |  |
|     | Number of stops for portaging   | 5+   | 5  | 5  | 5+   |  |
|     | Total minutes out of boat   | 45   | 60   | 45   | 45   |  |
| Q8  | Please identify rapids or sections you needed to portage and rate the difficulty of those portages (using your type of craft at this flow level) <sup>2</sup> .         | 1 mile DS of Put-in -<br>Moderately difficult - RL -<br>30 minutes | Big drop 1 mile DS of put-<br>in - Moderately difficult -<br>RL - 20 minutes                 | Logs -easy   | 1 mile DS of put-in -<br>Moderately difficult - RL -<br>30 minutes |  |
|     |   |  | Wood in small slides - 1.2<br>miles DS put-in - easy -<br>RR - 5 minutes                     | Logs -easy   | Many logs - Moderately<br>difficult - RR & RL                      |  |
|     |   |  | Wood in small slides - 1.3<br>miles DS put-in -<br>Moderately difficult - RL -<br>30 minutes | Logs -easy   |  |  |
|     |   |  |  | Logs 1 mile DS put-in -<br>Moderately difficult - RL -<br>20 minutes |  |  |
| Q9  | Did you observe any specific safety hazards beyond those normally encountered running a river of this difficulty at this flow? If so, please describe them below        | Downed trees everywhere  | Excessive amount of wood in the river from Star Fire   | Tons of logs - every rapid has log issues                            | Many logs  |  |
| Q10 | How would you rate the whitewater difficulty of this run? (Use American Whitewater's International Scale of Whitewater Difficulty that ranges from Class I to Class VI) | V  | V  | V  | V  |  |

FINAL French Meadow Dam to Middle Fork Interbay: Single Flow Evaluation Survey Results (May 22, 2010).

|     | Question  | Respondent <sup>1</sup>                |   |  |   |  |
|-----|---|--|---|--|---|--|
|     |   | DM                                     | MB  | CC   | TM  |  |
| Q11 | Please evaluate this flow for each of the following characteristics.  |  |   |  |   |  |
|     | Boatability   | -1                                     | 1   | 1  | 1   |  |
|     | Availability of challenging technical boating   | 1                                      | 1   | 1  | 1   |  |
|     | Availability of powerful hydraulics   | 1                                      | 1   | 0  | 0   |  |
|     | Availability of whitewater "play areas"   | 0                                      | n/a*  | n/a*   | 0   |  |
|     | Overall whitewater challenge  | 0                                      | 1   | 1  | 1   |  |
|     | Safety  | -1                                     | n/a**   | -1   | -1  |  |
|     | Length of run   | 0                                      | 1   | 0  | 1   |  |
|     | Rate of travel  | -2                                     | 1   | -1   | -1  |  |
|     | Number of portages  | -1                                     | 1   | 2  | -2  |  |
| Q12 | Please rate your overall satisfaction with today's flow.  | 2                                      | 1   | 2  | 2   |  |
|     | Please explain your rating -  | Great - perfect, just too<br>many logs | Flow seemed good - it would be acceptable - wood in the river was the main obstacle  *not a play run ** not due to flow | Great flow   | Flow was perfect for first time   |  |
| Q13 | In general, would you prefer a flow that was higher, lower, or about the same as this flow  | About the same                         | About the same  | About the same   | About the same  |  |
| 011 | Please explain  |  | Good flow   |  |   |  |
| Q14 | Based on today's study and your experience, can you identify a range of flows that would be suitable for boating this part of the reach | Yes                                    | Yes   | Yes  | Yes   |  |
|     | <u>Minimum Acceptable</u> : The lowest flow at which you would be willing to return to boat on this run.                                | 200                                    | 200   | 200  | 252   |  |
|     | Optimal: The flow that creates the best combination of characteristics for your craft type and skill level.                             | 252                                    | 250   | 250  | 250   |  |
|     | <u>Maximum Acceptable</u> : The highest flow at which you would be willing to return to boat this run.                                  | 300                                    | 350   | 300  | 400   |  |
| Q15 | Please provide any additional comments about the reach at this flow   |  | Steep technical creek -<br>expert only run - slow<br>progress due to wood   | The flow was good. The character would be good except for the enormous amount of logs.  Basically, with the number of fallen tress, the desire to come back would not be high. | The flow of 250 was optimal because the river picks up natural flow down river. |  |

Flow at put-in: 252 cfs

<sup>&</sup>lt;sup>1</sup>Boating Team Members: CC (Charlie Center), DM (Darin Mc Quoid), TM (Thomas Moore), MB (Marcy Burnham) <sup>2</sup>RL=river left; RR=river right; DS=downstream



#### **APPENDIX F**

**Post-Run Discussion Summary Notes** 

Middle Fork American River
Middle Fork Interbay to Ralston Afterbay
Post-Run Group Discussion Questions

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing

#### Whitewater Boating Flow Study – POST-RUN GROUP DISCUSSION QUESTIONS

### Middle Fork American River (Middle Fork Interbay to Ralston Afterbay Reach) May 8, 2010

1. What would you rate the class of whitewater at this flow?

Class 5 – difficulty of access; high consequences; instream wood; need to be on-line

2. Do you consider this a single-day or multi-day run?

Single day run – length; no real good camping areas; portages with heavy boat a problem; would not go to this run for a camping experience, i.e., the Feather River

3. What type of boater would you expect to boat this reach?

Class 5 expert boaters – "Sierra style"; wilderness run; not going to hike out, felt confined – closed canopy; multiple bear sightings, surprised by the degree of wilderness feeling; appeal to "creeking-boaters" as opposed to a "river-run"

4. What are the safety concerns on this run?

Typical Class 5 considerations; lots of instream wood – more than typical; some metal; most of the wood was in easy rapids – Class 3; top 3 miles (steep) was clean; needs to be "cleaned-out; there are not specific locations or sections that are overtly dangerous or required running or blind running

- 5. How would you expect the safety concerns to change at a lower flow?
  - Instream wood considerations would not change rapids would become rocky; more boat damage; more potential for pinning; more dangerous
- 6. How would you expect the safety concerns to change at a higher flow?
  - In channel and bank riparian growth would make it harder to catch eddies; more strainers
- 7. Are there specific locations you consider hazardous, beyond what would normally be encountered running a river of this difficulty? [use map to locate]
  - Instream and bank-side wood
- 8. Are there specific locations that required extensive portaging? [use map to locate]
- 9. Did you experience a change in flow during the run, and if so, how did that affect boating conditions? [refer back to "upper" and "lower" section breaks]

No

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing

#### Whitewater Boating Flow Study – POST-RUN GROUP DISCUSSION QUESTIONS

## Middle Fork American River (Middle Fork Interbay to Ralston Afterbay Reach) May 8, 2010

10. How would you expect boating conditions to change at a lower flow?

The lower the flow, the less "fun" it would be - would not meet your boating experience needs; more difficult to navigate; lack of cushions to maneuver off of, i.e., "boofing"

11. How would you expect boating conditions to change at a higher flow?

Bigger holes; moving faster and linked up; could get continuous in some sections

12. What is the minimum flow you would boat this run?

400-425 cfs
Would come back at this flow
Optimal Flow – 450 at put-in/500-550 cfs at take-out

13. What are the main reasons that you think you could not boat this reach below the minimum flow you identified?

Safety considerations and experiential requirements, boat damage; higher potential for injury

14. What is the maximum flow you would boat this run?

600 cfs at the take-out

15. What are the main reasons that you think you could not boat this reach above the maximum flow you identified?

Linking up; bank encroachment; instream wood; hydraulics; and speed of transit

Middle Fork American River
French Meadows Dam to Middle Fork Interbay
Post-Run Group Discussion Questions

### PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing

#### Whitewater Boating Flow Study – POST-RUN GROUP DISCUSSION QUESTIONS

Middle Fork American River (French Meadow Dam to Middle Fork Interbay Reach)
May 22, 2010

**Note**: The flow study was terminated by the boating study team approximately 1.75 miles below the put-in due to slow downstream progress. It took the boating study team approximately three hours to run the first 1.75 miles of the reach. This was due to the extensive amount of scouting and portaging necessitated by the presence of instream wood. In addition, weather conditions were poor on the day of the study. It was snowing and temperatures were in the 20s and 30s. Due to the slow rate of progress down the river, the potential for an unplanned overnight in the canyon in severe weather conditions was very high. All members of the boating study team and their equipment were evacuated by helicopter back to the put-in.

PCWA provided the boating study team with the opportunity to helicopter over the remainder of the study reach in order to assess the channel/flow conditions for the entire run. All boating study team members evaluated the remainder of the run from the helicopter. The team members felt that their responses on the Single Flow Evaluation Form and in the post-run discussion were applicable for the entire run, based on the section of river paddled and the remainder of the reach assessed by helicopter. They noted that that the run "cleaned-up" about ½ mile upstream of the confluence with Duncan Creek.

- What would you rate the class of whitewater at this flow?
   Class 5
- Do you consider this a single-day or multi-day run?
   Multi-day run based on the existing condition of the channel, with prevalent instream wood requiring extensive portaging
- 3. What type of boater would you expect to boat this reach?

  Class 5 Expert with low volume, steep "creeking" preference
- 4. What are the safety concerns on this run? Extensive amount of wood and steep portages
- 5. How would you expect the safety concerns to change at a lower flow?
  More exposed wood with more portages
- 6. How would you expect the safety concerns to change at a higher flow? They would not change

## PLACER COUNTY WATER AGENCY Middle Fork American River Project Relicensing

#### Whitewater Boating Flow Study – POST-RUN GROUP DISCUSSION QUESTIONS

## Middle Fork American River (French Meadow Dam to Middle Fork Interbay Reach) May 22, 2010

7. Are there specific locations you consider hazardous, beyond what would normally be encountered running a river of this difficulty? [use map to locate]

No locational considerations – instream wood is prevalent throughout the run

- 8. Are there specific locations that required extensive portaging? [use map to locate]

  No specific locations
- Did you experience a change in flow during the run, and if so, how did that affect boating conditions? [refer back to "upper" and "lower" section breaks]
   N/A
- 10. How would you expect boating conditions to change at a lower flow?
  More contact with instream wood and more portaging
- 11. How would you expect boating conditions to change at a higher flow?

  Instream wood more dangerous; need to scout longer sections; and more risk of washing into trees
- 12. What is the minimum flow you would boat this run?

200 cfs, at the put-in Optimal Flow – 250 cfs at put-in

13. What are the main reasons that you think you could not boat this reach below the minimum flow you identified?

Instream wood and extensive portaging

14. What is the maximum flow you would boat this run?

300-350 cfs at put-in – The Duncan Creek contribution, which is unknown at this time, is a big consideration. The 300-350 cfs is for the section between French Meadows Dam and Duncan Creek.

15. What are the main reasons that you think you could not boat this reach above the maximum flow you identified?

Instream wood; speed of transit; need to scout longer sections; and more risk of washing into trees