

PLACER COUNTY WATER AGENCY
Middle Fork American River Hydroelectric Project Relicensing

Aquatic Resources
Technical Working Group Action Item Summary

| Action Item | Meeting Date When Action Was First Discussed | Status |
|---|--|--|
| March 6, 2007 | | |
| <p>PCWA Instream Flow, Fish Pop., and Amphibian study plan completion approach will include the following:</p> <ul style="list-style-type: none"> ✓ Tech meeting with maps, etc., to ID starting sampling locations and methods. ✓ Focused field visits to refine sampling sites and transect locations. ✓ HSC meetings to develop HSC. ✓ Flow meeting to determine calibration target flows for instream flow modeling. | 3-6-07 | <p>April 16, 2007 Pending Pending Pending</p> |
| <p>PCWA will provide the following information at the April 16, 2007 technical meeting to aid in ID of potential study sites before field visits:</p> <ul style="list-style-type: none"> ✓ Habitat mapping ✓ Aerial photos ✓ Detailed maps ✓ Geomorph maps ✓ Photos ✓ Video | 3-6-07 | <p>April 16, 2007 meeting</p> |
| <p>Aquatic TWG to set dates for field visits to select instream flow and fish population study sites.</p> | 3-6-07 | <p>Aug 6-17, 2007 (proposed)</p> |
| <p>PCWA will contact USFWS regarding field visits.</p> | 3-6-07 | <p>Pending</p> |
| <p>AQ1-Instream Flow TSP Agencies will caucus and determine reaches where brown trout are a management objective.</p> | 3-6-07 | |
| <p>Aquatic TWG will select an appropriate HSC library for individual species and potentially for guilds of species. When complete the HSC library will be inserted into the AQ1-Instream Flow TSP as a table and appendix.</p> | 3-6-07 | <p>Pending completion of HSC meetings</p> |
| <p>PCWA will include spawning (including pocket gravel) in the instream flow modeling</p> | 3-6-07 | <p>Completed 4-13-07</p> |
| <p>PCWA will also model fish habitat at FYLF modeling locations (as appropriate)</p> | 3-6-07 | <p>Completed 4-13-07</p> |
| <p>PCWA will work with the Aquatic TWG to determine the appropriate calibration flows where velocity sets will be collected for modeling (typically a high flow).</p> | 3-6-07 | <p>Completed 4-13-07</p> |
| <p>PCWA will provide fish population data in a useable electronic format.</p> | 3-6-07 | <p>Completed 4-13-07</p> |
| <p>Aquatic TWG will coordinate sampling locations for FYLF, Fish, and Instream flow modeling.</p> | 3-6-07 | <p>April 16, 2007</p> |

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| PCWA will work with the Aquatic TWG to determine if validation of modeling results is appropriate at 2D sites. | 3-6-07 | Continue discussion |
| <u>AQ-2 Fish Population TWG</u> Agencies requested multiple years of fish population sampling a some sites. | 3-6-07 | Pending further discussion |
| PCWA will use the same fish population sampling method above and below diversions. | 3-6-07 | Completed 4-13-07 |
| Aquatic TWG will consider angling pressure as a factor that may alter fish density during study site selection process. | 3-6-07 | Pending |
| Request by NGO participant to consider mainstem brown trout spawning in analysis | 3-6-07 | Pending |
| <u>AQ-12 Special-Status Amphibian and AQ Reptile TSP</u> PCWA will include a sample site table with information on how the site meets TSP objectives. | 3-6-07 | Completed 4-13-07 |
| PCWA will provide Amy Lind's comments to the TSP | 3-6-07 | Letter Provided at April 16, 2007 meeting |
| <u>AQ-4 Water Temperature Modeling TSP</u> PCWA will model and report daily mean, maximum, and minimum in all study reaches | 3-6-07 | Completed 4-13-07 |
| PCWA will calibrate/validate the temperature models in collaboration with the Aquatic TWG subgroup. | 3-6-07 | Completed 4-13-07 |
| PCWA will model a range of alternative flows as determined by the Aquatic TWG. | 3-6-07 | Completed 4-13-07 |
| Aquatic TWG OK with modeling locations, add some detail on methods. | 3-6-07 | Completed 4-13-07 |
| PCWA will add temperature monitoring locations and references in the TSP | 3-6-07 | Completed 4-13-07 |
| PCWA will monitor temperature in the streams not being modeled (Duncan Creek and Long Canyon Creek including the North and South Forks). | 3-6-07 | Completed 4-13-07 |
| Aquatic TWG will clarify the global warming aspects of the TSP or take it out. | 3-6-07 | Completed 4-13-07 |
| <u>AQ-4 Water Quality Modeling TSP</u> PCWA will use a lab that has good mercury testing methods and QA/QC procedures similar to the those used by the CDFG Moss Landing Lab. | 3-6-07 | Completed 4-13-07 |
| Agencies to clarify the fish tissue sampling protocols (fillet or whole fish). | 3-6-07 | Text for fillet sampling |

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| | | added to TSP |
| PCWA to add language to allow for not finding a priority sampling species. | 3-6-07 | Completed 4-13-07 |
| PCWA will sample fecal coliform at the Drivers Flat Road rafting takeout area and Horseshoe Bar area. | 3-6-07 | Completed 4-13-07 |
| <u>AQ-9 Geomorphology TSP</u> Aquatic TWG to discuss pebble count methods (e.g., zig-zag method) <ul style="list-style-type: none"> ✓ (Stafford to provide paper outlining approach) ✓ (Entrix will bring Mitch Katzel to April meeting) ✓ (USFS will try to consult with Cheryl M. before April meeting) | 3-6-07 | Pending |
| V* sampling of fine sediment OK, but concerned that sites will not all be measured if difficulties arise in the field; need real-time feedback to Aquatic TWG. | 3-6-07 | Completed 4-13-07 |
| PCWA to clarify ID of bank-full discharge. | 3-6-07 | Completed 4-13-07 |
| CDFG and PCWA will coordinate regarding regional flood flow frequencies. | 3-6-07 | Completed 4-13-07 |

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| February 6, 2007 | | |
| PCWA will provide a copy of the Ralston Afterbay Bathymetry to interested parties (fine resolution PDF files have worked well in the past—CDFG). | 2-6-07 | Approximately early May when analysis is complete |
| PCWA: A suggestion was made that PCWA should do an engineering analysis of all gates and their capacity for operation. In some instances, on other projects, the engineering analysis has shown that the gates have a different safe operating range than the current range over which they are being operated. | 2-6-07 | Will be done |
| PCWA/Agencies: In the AQ2-Fish Population Study Plan better define the criteria, and/or data that will be used to compare Project fish populations to reference fish populations. Perhaps remove data analysis from study plan and make an agenda item for future discussion. | 2-6-07 | Pending discussion with Aquatic TWG on how interactive data analysis issues should be handled. |
| PCWA/Agencies: Clarify the data analysis or analysis process that will be used for the technical study plans (TSP). Potentially use a separate or phased approach: <ul style="list-style-type: none"> • Data collection – in TSP • Decide on criteria – in TWG • Complete analysis – in analysis phase | 2-6-07 | Pending discussion with Aquatic TWG on study plans and process |
| PCWA will review FERC regulations related to required components of study plans. | 2-6-07 | Reviewed |
| Proposal: Have a meeting to discuss study plan analysis, define objectives, ID issues in TSPs, develop specifics, and define how habitat suitability criteria (HSC) for the AQ1-Instream Flow Study will be developed. | 2-6-07 | March 6 meeting |

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| PCWA will in the AQ2-Fish Population Study Plan provide for alternative sampling methodologies in Ralston Afterbay (e.g., trawling) should the gillnet and electrofishing approach for hardhead indicate that hard head are not present. | 2-6-07 | Completed- |
| Russ Kantz: Will send Craig Addley a study with good fish integration. | 2-6-07 | Completed-Sent (pdf of PowerPoint presentation) |
| PCWA: All aquatic TSPs will be provided to the agencies by 2/20/07. | 2-6-07 | Completed |
| Entrainment is recognized by all as a difficult issue. Both indirect analysis (e.g., CDFG) and direct measurement of entrainment (e.g., USFS) may be useful. Proposal: Hold a scoping type meeting with pictures, descriptions of facilities, and hydrology to aid study plan development. | 2-6-07 | Pending March 6 discussion with Aquatic TWG on study plans |
| PCWA will provide a brief discussion and specifics of the rationale for AQ12 Special Status Amphibian survey locations | 2-6-07 | Completed- |
| Entrix will provide CDFG (Stafford) with current information related to foothill yellow legged frog habitat suitability criteria (HSC) for instream flow modeling (other studies and protocols). | 2-6-07 | March 5 meeting |
| Entrix will provide Bob Hughes additional information on the RMA 2 and RMA 11 flow and water temperature models. | 2-6-07 | Completed- Several items sent (fact sheet, USGS review of Klamath River modeling, software link). |
| Agencies will develop specific comments to the Aquatics Study Plans during their 2/26 Agency Meeting and provide the comments to PCWA if possible (e.g., 2/27). | 2-6-07 | March 6 meeting |

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| Agencies will provide some potential meeting dates to work on aquatic study plans following their 2/26 agency meeting. | 2-6-07 | March 6 meeting |
| PCWA will compile a library of habitat suitability criteria (HSC) for potential application on the Project. | 2-6-07 | In progress |
| PCWA will meet off-line with CDFG (Stafford, Mary Lisa, Bob) regarding components of the AQ1-Instream Flow Study Plan (2D modeling, 1D modeling, level of effort, etc.). | 2-6-07 | March 5 meeting |
| November 14, 2006 | | |
| PCWA will add into the AQ4 Water Temperature Modeling Study a correlation of Air/H ² O temperature in Duncan Creek and North and South Long Canyon during the spring/early summer before July 1 diversions cease. | 11-14-06 | Completed- Text added to TSP |
| PCWA will check with Jan and Matt whether diversion timing for water temperature is a water right or PM&E issue | 11-14-06 | ?? |
| PCWA will consider mercury fish sampling and criteria and report back to TWG (e.g., use gillnet catch, 5 fish per species for game fish, at diversions/reservoirs, indicator species- edible size, brown trout, rainbow, pike minnow, lake trout, number of samples for screening, concentration criteria) | 11-14-06 | Completed |
| SWRCB will provide feedback whether cloud seeding chemicals should be a fish tissue analyte | 11-14-06 | Completed- Matt provided feedback that that no they were not |
| PCWA will determine if dissolved or total mercury samples are most appropriate. What is compliance standard? | 11-14-06 | Completed- Sample total mercury |

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| PCWA will determine peaking reach tributaries with potential for perennial flow: Otter Creek, Jesse Canyon, Snider Canyon, Josephine Canyon, Paradise Creek, Gas Creek, American Canyon, Dardanelles | 11-14-06 | Currently not specifically in a study plan. |
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