



Ms. Kimberly Bose
 Secretary, Federal Energy Regulatory Commission
 888 First Street, NE
 Washington, DC 20426

December 20, 2010

**SUBJECT: Responses to Draft License Application
 Middle Fork American River Project, FERC No. 2079**

Dear Ms. Bose:

We are writing, pursuant to 18 CFR 5.18(e), in response to Placer County Water Agency’s Draft License Application (DLA) for the Middle Fork American River Project, FERC No. 2079. This response is being submitted on behalf the USDA Forest Service, USDI Bureau of Land Management, USDI National Park Service, USDR Bureau of Reclamation, California State Department of Fish and Game, and California State Parks (resource agencies).

The resource agencies would like to commend Placer County Water Agency on the work that went into their Draft License Application and the collaborative atmosphere that they continue to foster in their relicensing. Although the attached comments are rather lengthy, the resource agencies have tried to provide as much specificity as possible in an effort to assist in reaching a comprehensive collaborative agreement with Placer County Water Agency and other relicensing participants. In some cases, we have provided specific proposed plans that we hope will aid in our discussions.

If you have questions, please contact Beth Paulson at 925-952-4715.





RAMIRO VILLALVAZO
Forest Supervisor
Eldorado National Forest



TOM QUINN
Forest Supervisor
Tahoe National Forest
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WILLIAM HAIGH
Mother Lode Field Manager
USDI Bureau of Land Management

A handwritten signature in black ink that reads "Barbara Rice". The signature is written in a cursive style with a large initial 'B' and 'R'.

BARBARA RICE
Program Leader
Hydropower Recreation Assistance, Pacific West Region
USDI National Park Service



Michael R. Finnegan
Area Manager
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USDI Bureau of Reclamation

A handwritten signature in black ink, appearing to read "Kent Smith". The signature is fluid and cursive, with the first name "Kent" and last name "Smith" clearly distinguishable.

KENT SMITH
Regional Manager
North Central Region
California Department of Fish and Game



SCOTT NAKAJI
District Superintendent
Gold Fields District
California State Parks

Middle Fork American River Hydroelectric Project Draft License Application Resource Agency Comments

17 December 2010

Introduction

The resource agencies have provided some very specific proposals and ideas in the following comments for discussion with the licensee and other Relicensing Participants in hopes of reaching a comprehensive collaborative agreement. However, the resource agencies note that the following proposals will need to be reviewed for compliance with all appropriate resource agency plans and direction as well as all applicable regulatory requirements, such as the State Historic Preservation Act and the National Environmental Policy Act, prior to finalizing the proposals.

Volume 1, Initial Statement

- Page A-14. The project description does not address needed repairs at Brushy Canyon Adit.
- Pg D-3 addresses the betterment at Hell Hole Reservoir. It is not clear if the cost figures include costs for new road construction.
- Table D-1 shows the transportation system maintenance costs at \$119,000 per year. Please clarify if these costs reflect needed repairs at Brushy Canyon Adit or the proposed new construction and maintenance costs associated with proposed new projects.

Volume 3, Exhibit E, Environmental Effects

No Action Alternative

- Page 3.1.9. This section includes only roads and trails proposed to be “Project Roads and Trails. Please include other roads and trails impacted by Project operations and maintenance activities.
- Page 3.1.10. Please include roads and trails impacted by project recreation activities. The licensee acknowledges the facilities they built or maintain, but impacts to access routes are not discussed.

- Page 3.3. The document acknowledges impacts to roads and trails, but Table 3-9 only lists “Project Roads and Trails” and not facility access routes. The licensee should discuss a proposal for commensurate share maintenance resulting from all project-related activities.
- Page 3.3.10. The licensee discusses current cooperative maintenance agreements. The Transportation System Management Plan (TSMP) and any future agreement should address all roads impacted by the project activities and should include a proposal for responsibilities. These can be addressed via through the appropriate permit with the applicable agency that memorializes the licensee’s commensurate share of road maintenance obligations as well as the need for higher standard roads to provide public access to project recreation facilities. Also, there are currently no agreements with BLM or FS for maintenance of roads accessing Cache Rock, Drivers Flat, Fords Bar, Cherokee Bar, China Bar, or Mammoth Bar that address commensurate share of road maintenance. Also, cables are not an acceptable access control measure on NFS lands or routes.
- Table 3-7 Big Meadow and Middle Meadow Campground water tank routes are roads. The licensee has been provided with the FS road numbers. These roads should be moved to the appropriate Project Roads Table.

Proposed Action

Page 4.2. Please include the footprint of the access road from road 17N02 to the campground. This entire route serves as the campground road just as the interior roads do and should be included in the project boundary.

Botanical and Wildlife Resources

General Comments

The list of FS Sensitive species will change during the life of the license and possibly the list of state and federally listed species. This is not addressed. This section is written to address primarily Stebbins’ phacelia although other Sensitive plants during the life of the license are a concern.

Many non-routine recreation facility projects have potential impacts to Stebbins’ phacelia. These are not addressed. For example, activities around Hell Hole Vista and the boat ramp parking areas that are listed in the resource agency recreation plan have potential impacts. Botanists should be included at the initial stages of developing projects.

For the AP measures in the VIPMP, include language to indicate that the VIPMP has not been finalized and agreed upon. The list of AP measures must come from the approved VIPMP.

The AP measures for the Recreation Plan need to be developed (none were found in the RMP). A botanist needs to be included at the outside of project design if sensitive plant species are known to be present or if the project area has not been recently surveyed. This will save money in the long-run. Currently, projects are proposed at Hell Hole in the vicinity or within sensitive plant occurrences (e.g., Vista, boat ramp parking areas).

AP measures for the Transportation System Management Plan (TSMP) should include possibility of Limited Operating Periods to allow for activities that could occur with reduced impacts depending on the phenology of Sensitive plants at the time of activities. The following from TSMP Table 5 should be included to address other special-status plants and not just Stebbins' phacelia:

“If a new special-status plant population that could be affected by routine maintenance of roads or trails, or by non-routine special projects, is detected during required inventory surveys, the Licensee will consult with USDA-FS, USFWS, and CDFG, as appropriate, to determine a site-specific protective buffer around the population considering the special-status plant species, location of the population, and topography of the site.”

It is incorrect to state that “Implementation of these AP measures will avoid impacts to Stebbins' phacelia under the Proposed Action at all but three locations.”

Stebbins' phacelia is an annual species whose population fluctuates through time. Given that, the following statement is not accurate: “In addition, implementation of periodic maintenance at the Rubicon River Gage at Ellicott Bridge Trail (an existing trail that has been added to the MFP) will impact Stebbins' phacelia. Specifically, trail maintenance will result in the removal of *four individual* Stebbins' phacelia that are growing within the footprint of the trail.” There could be any number of plants at the time of maintenance.

Existing Facility Modification and Construction of New Facilities

Activities identified in the resource agency recreation plan could impact Stebbins' phacelia in the Hell Hole area, specifically.

Additional Measures for the Protection of Upland Special Status Plants

Please change the bullet regarding annual consultation to the following:

- Consulting annually with resource agencies to discuss the effectiveness of AP measures to protect special-status plants, to revise or develop new AP measures as needed, and to develop site-specific protective measures for any new special-status plant populations identified during inventory surveys; and

Conclusion - Upland Special-Status Plants

Effects from activities in the recreation plan are not addressed.

PA measures will not enhance Stebbins' phacelia, as stated, but possibly would impact a smaller area and fewer individuals than under the existing condition.

Mitigation is needed to address impacts to Stebbins' phacelia if assumptions regarding effects from changes in Hell Hole elevations are wrong.

Recreation Resources (Whitewater Boating)

The environmental effects of the Draft License Application (DLA) are discussed in Volume 3, Exhibit E, Book 2, Section 8.9. This section includes discussion of the amount of whitewater boating opportunities that would be available in the proposed action or DLA, including tables displaying whitewater boating opportunities by water year type for each of the runs in the peaking reach. These calculations of whitewater boating opportunity days use a number of assumptions, including the minimum acceptable flows for each of the runs identified in the DLA. The resource agencies do not agree that all of these minimum acceptable flows are appropriate. Using different minimum acceptable flows would alter the number of whitewater boating opportunities and perhaps the conclusions in this section that whitewater boating opportunities are maintained or enhanced for all runs in the peaking reach.

Another consideration when analyzing whitewater boating opportunity days is how real the opportunities are for users if there is insufficient information and fore knowledge that the opportunity exists. This is particularly true for commercial whitewater outfitters that need scheduled flows well in advance in order to operate their businesses. While “private” boaters may be more flexible in taking advantage of “opportunistic” flows, this does not provide the same type of access as required scheduled recreation flows which recreationalists can plan on in advance. Dissemination of real-time flow data, as proposed in the DLA, will assist the public in taking advantage of whitewater opportunities, but is not a replacement for a reasonable required schedule of recreation flows for the runs in the peaking reach.

The whitewater boating opportunity analysis in the DLA also includes assumptions on the acceptable timing of flows for the various runs in the peaking reach. This window is from 8am to 2pm for the Tunnel Chute Run and assumes this allows boaters to complete this run by 6pm. The acceptable window for the initiation of boating flows in the DLA is from 8am to 4pm for the Mammoth Bar run and 8am to 5pm for the Confluence Run, both of which assume boaters would complete these runs by 8pm. Some recreational boaters may take advantage of a late afternoon/early evening opportunity (from 4pm or 5pm until 8pm), particularly on weekdays, but this is a far less than ideal recreation opportunity window on weekends.

Aesthetic Resources

General Comments

- In a number of places throughout this section, the writer states that the action will “enhance visual quality”. This is a value statement that may or may not be true but is inappropriate for the analysis. The term should be “meet or exceed the VQO standards and guidelines as described in the (ENFLRMP or TNFLRMP).
- In a number of places throughout this section, the writer states “Therefore, visual quality will be maintained under the Proposed Action.” Once again, we are not making a value statement on the visual quality. The term should state: Therefore, the desired (ENFLRMP or TNFLRMP) VQO’s will be met.”
- There does not appear to be any discussion regarding the new powerhouse and penstock at Hell Hole Reservoir.

Section 8.11.5.2, Small Diversion Modifications: None of the modifications to the small diversions will substantially alter the physical or visual character of the dams or ancillary structures. Accordingly, the visual condition of the diversion dams will be similar under the No-Action Alternative and the Proposed Action. The modifications will result in diversion pools that are slightly shallower and more riverine in nature, consistent with the adjacent landscape. Therefore, visual quality will be maintained under the Proposed Action. The discussion needs to be in terms of what is the current forest plan VQO, does the existing facility meet the desired VQO and will the modification change the existing VQO so that it no longer meets, does not change, or exceeds.

Section 8-11.1: Replace the following sentence: The VQOs are goals that describe how the forest should look in the future (i.e., desired condition) with “The VQOs are goals that describe the degree of alteration measured in terms of visual contrast with the surrounding natural landscape.”

Section 8-11.2: Under the following statement: The maximum operating WSE will remain the same at both reservoirs under both the Proposed Action and No-Action Alternative. Therefore, both reservoirs will be operated within their historic range with minor changes occurring on a seasonal basis, depending upon water year type.” Current operations lower the water late in the recreation season when there are less users. If the timing of operations changes the low water period to earlier in the season, then even though the range is the same for the whole year, the visual bathtub effect would affect more viewers. Please clarify whether the low water levels during normal year will be earlier than under the current operation. Dry and critically dry years don’t matter because there will be a bathtub effect year-round.

Section 8-11.3: The resource agencies agree that implementation will enhance the visual quality of some of the project facilities but the following statement implies that it will enhance all of them: “Therefore, implementation of the Proposed Action will enhance visual quality as it relates to Project facilities.” The French Meadows Powerhouse betterment will decrease the visual quality within the Hell Hole viewshed.

Section 8-11.2: The resource agencies do not necessarily agree with the following statement regarding potential loss of vegetation due to inundation over time: “Furthermore, as discussed in Section 8.6 – Botanical and Wildlife Resources Environmental Effects, the change will not impact vegetation around the reservoir.” If large-scale vegetation is lost, then there will be a negative visual impact due to a greater exposed bathtub effect during the period of high recreation use.

Section 8.11.3.1, Facility Painting: The licensee will periodically paint the Project facilities as paint surfaces deteriorate. Under the Proposed Action, PCWA will consult with the FS on the selection of appropriate colors as specified in the VMP. Selecting paint colors in consultation with the FS will help ensure that the MFAR Project facilities and features blend with the surrounding landscape to the extent possible. This consultation does not occur under the No-

Action Alternative. Therefore, implementation of the Proposed Action will enhance visual quality compared to No-Action Alternative.

Section 8.11.4.2, Recreation Facility Reductions and Conversions: The resource agencies agree with the following statement except for the conversion of McGuire picnic area: “However, reduction and conversion of these facilities will reduce the overall size and scale these facilities, making them more compatible with the characteristics of the surrounding landscape.” The planned improvements and anticipated increased public use associated with the group site will be more noticeable from the reservoir than the existing picnic area which is hardly discernable from the reservoir and use is minimal.

Section 8-11.5: Add: “Modifications to the existing gages will meet the requirements of the VRMP.” after “Modifications to existing gages will occur at existing Project facilities (i.e., dam outlet works, spillways, diversion tunnels, and penstocks) and will not alter the physical or visual character of these features.”

Hell Hole Dam Spillway Crest Gates Control Building and Powerline: This discussion is only referenced from Hell Hole Vista (per the 8.11-2 photo). Shadows change over the course of a day and a season. The building and powerline would likely be visible from the reservoir, boatramp or trail and possibly from the vista when the atmospheric conditions are different from those in the photo. Effects need to be addressed from all viewsheds, not just from KOPs.

Section 8-11.5.1, Temporary Features: Regarding the following statement: “Furthermore, these features are temporary. Therefore, visual quality will be maintained under the Proposed Action.” It does not follow that because the features are temporary that the visual quality will be maintained. It will only be maintained if the features are returned to the same condition as they were prior to the temporary construction. For example, the staging area at the French Meadows spillway is temporary and has had an enormous visual effect that cannot be put back to the original condition without a large investment.

Section 8.11.6, Conclusions: Regarding the following statement: “Overall, implementation of the Proposed Action will enhance or maintain visual quality compared to the No-Action Alternative.” The resource agencies disagree with this conclusion. We agree with the remainder of the paragraph, but the addition of the French Meadows powerhouse and penstock at Hell Hole Reservoir is a negative visual impact. There is also the potential (per forest botanist) for an increase in bathtub ring appearance around the reservoir during the high use season due to the operation of proposed increase in water level over the 50 year license. There is also the increase in size of augmentation areas. There is also the increase in features associated with the small diversion modifications.

Table 8-11.1: There are a number of errors in this table. Any time the Forest Plan VQO is “retention”, the visibility from the viewshed is “seen” and consistent with forest plan is “yes,” there is an error. The facility would have to be “not noticed” in order to meet the VQO of retention by definition.

Cumulative Effects Analysis

Section 9.0: The resource agencies have considered the DLA cumulative effects analysis in light of those impacts that may result from changes in flow and project re-operation. Among our concerns are two most fundamental issues:

- The licensee has based the cumulative effects analysis on a 50-year license term. Assessments made by FERC and other resource management agencies are always conducted on the 30-year time frame, recognizing that the term of any future license has not been determined. Until a new license has been granted, this analysis should be based on the conservative 30-year license term.
- The resource agencies recognize that this analysis is necessary to comply with the National Environmental Policy Act (NEPA) requirements. However, cumulative effects of the flow changes in the project should not be limited to a comparison with the no-action alternative, which is essentially the existing condition. Cumulative project effects of instream flows are, in many cases, more appropriately compared to pre-project hydrologic conditions.

The cumulative effects analysis for terrestrial resources, specifically sensitive plants, is missing.

Economic Analysis

Section 11: The resource agencies have several concerns and questions regarding the approach taken by the licensee in developing the economic analysis for operation of the MFAR Project. These concerns include, but are not limited to the following.

The draft license application (DLA) evaluates project economics assuming a 50-year period of analysis (based on a requested 50-year license term). This is inconsistent with the approach used by the Federal Energy Regulatory Commission for evaluating the economics of hydropower projects, as articulated in the Mead Corporation, Publishing Paper Division decision. As specified in this decision, FERC applies a 30-year period in all economic analyses. The licensee should revise their economic analysis to reflect a 30-year period of analysis.

Additionally, in Tables 11-2 and 11-3 of the DLA, PCWA includes depreciation as a component of the annualized cost of the project. The depreciation value used is about \$10 million for the No-Action and Proposed Action alternatives, which is a substantial component of the approximately \$26,000,000 and \$28,000,000 annual cost of the two project alternatives, respectively. The use of depreciation in the calculation of annualized project costs has not been observed by resource agency staff in the economic analyses prepared for other hydropower projects. In the absence of a reasonable explanation as to why it is appropriate to include depreciation as an element of the annualized cost of project alternatives for the MFAR Project, we believe depreciation should be removed from the annualized cost calculation.

Volume 3, Exhibit E, Proposed Environmental Measures (Supporting Document A)

Flow and Reservoir Monitoring Plan

The DLA states that minimum instream flows and pulse flows must be released within five days of the dates specified in the License unless access to the instream flow release infrastructure is prohibited by weather or hazardous conditions. At this time, the resource agencies do not see the need for a five-day grace period in this condition; it is appropriate for the condition to require that minimum instream flows be met on the date specified in the flow measure, unless access to the instream flow release infrastructure is prohibited by weather or hazardous conditions.

The licensee specifies in the DLA that instantaneous minimum instream flow and pulse flows must at all times be no less than 90 percent of the required flows, and daily average flow must at all times be no less than 90 percent of the required minimum instream flow in order for the licensee to be in compliance. Additionally, the licensee specifies that once set during downramp events, daily average flow must at all times be no less than 80 percent of the required instream flow releases for the first three down ramp events implemented under the new License and for subsequent down ramp events, daily average flow must at all times be no less than 90 percent of the required down ramp of spill flow releases. The resource agencies believe that the minimum instream flows specified in the license should be enforceable conditions; instantaneous flow measurements must not fall below specified minimum limits established in a flow regime.

Additional Flow Information

It would be helpful to the resource agencies to have access to streamflow and reservoir level information during license implementation. Provision of the following is recommended:

- Streamflow information in both daily summary (minimum, maximum, and mean) and 15-minute formats.
- Access to both plotted data (such as on a website) and downloadable data (such as .txt files on an ftp site).
- A plotting tool compatible with the data that allows zooming-in on timeframes and hydrograph components of interest. A plotting tool with the capability to plot other relevant parameters (such as rainfall and stage) on the second axis is preferred.
- Provision of real-time raw data, followed by provision of corrected data (within an agreed-upon timeframe), for each gage.

Fish Population Monitoring Plan

Section 1.0, Introduction: The draft fish population monitoring plan (FPMP) includes a goal to obtain, for comparative purposes, the fish population data collected during the license term. The plan anticipates the comparison of post-licensing data sets with “historic population data collected during 2007, 2008, and 2009...” but fails to express a potential scenario where “historic” baseline data is no longer valid on the Rubicon River if instream flows are changed based on new operational patterns upstream on the Upper American River Project, (FERC No. 2101) (UARP). Interim data collection should be done as needed to adjust stream fish population baseline data if the UARP license is issued and the flow regime affecting the Rubicon River changes prior to issuance of a license for the MFAR Project. The resource agencies look

forward to the addition of an appropriate section in the FPMP that presents commitments to interim data collection, if necessary, to update existing fish population baseline data.

Section 4.2, Sampling Methods: In addition to standard fish population monitoring in the Peaking Reach, a focused effort using sampling techniques appropriate for detection of the juvenile life stage should be particularly emphasized in the first 5 years following license issuance. This focused sampling is requested because data collected during relicensing may not accurately characterize age-class structure and the abundance of smaller sized fish; resource agencies do not know what effect peaking is having on young of the year (YOY) and juvenile life stages of fish. In order to increase the probability of detecting YOY, electrofishing should be conducted where feasible (margins) in the peaking reach, and should be conducted for a minimum of five consecutive years. Details of the focused study should be included as an element of the FPMP in the FLA.

Section 4.3.2, Biomass: The biomass of rainbow and brown trout together and separately will be calculated for each site.

Section 5.0, Reporting: Section 4.3.3 of the FPMP provides the formula for calculation of adult trout condition factor; however, a commitment for analysis and reporting of any change in site-specific condition factor is not included. Documentation of improvements or declines in condition factor at sampling locations on any stream segment where flow conditions are altered under a new flow regime should be included in the FPMP. Section 5.0 should describe the analysis and reporting of age structure and average condition factor over time, and data along with these analyses should be introduced into discussion at annual meetings between the licensee and resource agencies.

Section 4.2, Sampling Methods: Provide radio-tagging studies of hardhead in order to understand their movements and potential impacts by daily, seasonal, and annual operations at Ralston Afterbay, including during the sediment removal period. This study shall continue until their movements are understood to the best that scientific collection techniques will allow.

If in the future anadromous fish species are reintroduced above Nimbus and Folsom dams, the FPMP may need to be modified, in consultation with the Resource Agencies, to monitor those species.

Foothill Yellow-Legged Frog (FYLF) Monitoring Plan

Monitoring Schedule

The frequency of monitoring is somewhat sparse. The resource agencies need to have adequate information to evaluate population changes over the license term in order to determine the effects of the flow regime and address changes if necessary. The resource agencies recommend the following:

- Since there is only one year (2007) of complete survey data for FYLF and 2007 was a dry water year, it would be appropriate to gather some additional “baseline” information on distribution and relative abundance of FYLF in the project area.
- The resource agencies recommend that the licensee collect data in years 1, 2, 3, 4, and 5 with the goal of representing three different categories of water year type at least once, that is, above normal/wet, below normal, dry/critically dry. If these three categories aren’t seen in the first 5 years, then add years until all three categories have been represented.
- During these first 5 years of annual monitoring, both timing of initiation and breeding and upstream distribution surveys would be conducted each year.
- After the first 5 year period, the frequency of surveys may be diminished to the first 2 years (year 1 and 2) and the middle 2 years (years 5 and 6), out of every 10 for the remainder of the license. The caveat here is that if these surveys show signs of population change, more years may be added and instream flows will be evaluated in an adaptive management framework. Near the end of the license period (last 3-5 years), survey frequency would be increased to annual to provide reliable baseline data for the next relicensing.
- Periodically do broad distributional and phenological surveys. Once every 5 years, the entire project area (original 2007 survey sites or a collaboratively agreed upon subset) should be resurveyed to identify changes in FYLF distribution. Initiation of breeding surveys should also be conducted every 5 years.
- Monitoring during outage period in October to see if stage change affects the FYLF and to see if the tadpoles have metamorphosed during the outage for the first few years. Also monitoring should occur after unplanned accidental outages in order to understand the effects of various accidental flow rate changes.

Monitoring Locations

The resource agencies recommend the following:

- Add tributary survey sites in Pilot Creek and Long Canyon Creek
- Add comparison sites in the North Fork American River. The substrate and gradient of North Fork American River has similarities to some of the reaches in the PCWA project with frogs.
- .For upstream distribution surveys use the current known upper elevation limit of FYLF in the Sierra Nevada rather than just extending upstream from current known sites in the project.

Sampling Methods

The resource agencies recommend the following:

- Add an additional survey within each survey year; that is, conduct two surveys during breeding/egg laying, one during tadpole, and one after metamorphosis.
- Add individual identification methods for adults (chin photos or PIT tags) and make tadpoles and young of the year counts more quantitative, with some estimate of counting error (e.g., double observer).

This section needs to be developed further; the current text does not provide enough detail. For example, how will abundance and distribution of FYLF be related to discharge and water temperature and how will the status and trends of FYLF populations be determined? The monitoring results should allow us to address the following questions.

- Is there an increasing, decreasing, or stable trend in relative abundance over time?
- How are the sex, age, and size class distributions changing over time?
- Is the phenology of egg laying, tadpole rearing, and metamorphosis trending earlier or later over time?

Geomorphology Monitoring Plan

This plan has not been developed. The resource agencies reserve the right to comment on the adequacy of a draft GMP, and seek a minimum of 90 days for review of this and any other new materials presented for the project FLA. The resource agencies recommend that it be collaboratively developed and agreed upon.

Riparian Monitoring Plan

This plan has not been developed. The resource agencies reserve the right to comment on the adequacy of a draft RMP, and seek a minimum of 90 days for review of this and any other new materials presented for the project FLA. The resource agencies recommend that it be collaboratively developed and agreed upon.

Sediment Management Plan

The resource agencies participated in the development of the Sediment Management Plan and understand and support the concept of improving sediment transport within the system. However, because all proposed measures have not been developed and agreed upon, the resource agencies provide the following comments that should be addressed either in the SMP or related proposed measures. If conditions or proposed measures are developed that warrant revision of this plan, the resource agencies reserve the right to provide specific comment relative to potential effects of those measures or conditions.

General Comments

Sediment management affects both geomorphology and water quality. The resource agencies provide the following comments to ensure that the SMP addresses or incorporates via reference to other proposed license conditions the following:

- Oxbow Reservoir and Hell Hole Reservoir are both on the 303(d) list for mercury. In light of this, it needs to be considered whether sediment removal from the medium sized reservoirs coupled with depositing the removed material at downstream sites will increase methylmercury in downstream areas. Production of methylmercury can occur under anoxic conditions in reservoirs and can then be mobilized if the material is disturbed. Sediment removal and augmentation activities should be designed and monitored to ensure that methylmercury levels are not increased by project operations.

- Flows needed to mobilize large woody debris should be analyzed and potential for transport of LWD, and likely deposition sites, discussed. Transport of LWD moved downstream should be monitored.

Specific Comments

- The licensee's sediment management activities will likely require a Lake and Streambed Alteration Agreement from DFG. In the draft SMP, PCWA should reference the need for this agreement as well as permits for other pertinent activities - such as a Corps of Engineers 404 permit or permits from FS or BLM.
- On page 17 of the draft SMP regarding sediment pass through (SPT) activities, the licensee states that "If continuous, or real-time turbidity monitoring related to SPT has not been completed prior to issuance of the new license; PCWA will implement turbidity monitoring as described in the Pilot Project for the initial SPT event." The licensee should describe the specific elements of the turbidity monitoring program from the Indian Bar Pilot Project that may be applied to the sediment pass through activities covered by the draft SMP. The resource agencies will review the adequacy of the specific measures to be included, once they are included.
- In Table 5 under the Riparian Measures section of the draft SMP, the licensee states that "Riparian vegetation will not be removed or destroyed during implementation of sediment management activities (with the exception of one-time removal of riparian vegetation for the development of the Junction Bar Sediment Augmentation Area and removal of vegetation at the toe of the slope on Indian Bar)." However, the licensee notes on page 10 for Middle Fork Interbay and on page 14 for Ralston Afterbay that "Vegetation near the toe of the augmentation areas will be removed annually to allow for mobilization of augmentation of material." Table 5 should be updated to reflect the annual vegetation removal near the toe of the Middle Fork Interbay and Ralston Afterbay augmentation areas.
- Section 3.0, Sediment Management; 3.1.1 Interim Sediment Management; and 3.1.3 Contingency Sediment Management: Large woody debris caught in dams and trash racks should be moved downstream in a collaboratively agreed upon location and not simply removed nor burned nor disposed of at an approved disposal area.
- Treatment of vegetation that is removed, for sediment augmentation or any other project purpose, needs to be described or agreement with the land management agency needs to be reached prior to the removal and disposal.
- Section 3.2.2, Sediment Removal: Prior to finalizing plans and a schedule for any sediment removal action at Ralston Afterbay, the Licensee should consult with FS, CDFG and SWRCB staff to determine appropriate fisheries and/or water quality monitoring needs. On a project-specific basis, the Licensee will need to consider fish species, distribution, and age-classes present in Ralston Afterbay, and any risk of impact associated with sediment removal.
- Section 3.2.2, Sediment Augmentation: Junction Bar and Indian Bar shall be surveyed for FYLF prior to implementation, and the licensee will consult with Relicensing Participants as to whether FYLFs shall be relocated.
- Page 19, Table 5: Ralston Afterbay will be surveyed for existing juvenile and adult fish (all species) prior to implementation. Percent of affected fisheries in Ralston Afterbay will be quantified by species and life stage.

Water Temperature Monitoring Plan

The DLA presents a draft water temperature monitoring program that appears to be limited in geographic scope and lacks details to ensure an understanding of cold and warm water habitat changes that may result with modifications to magnitude and timing of flow within MFAR stream reaches. In Section 1.0 of the water temperature monitoring plan, PCWA states that "Water temperature monitoring will focus on river reaches with known populations of foothill yellow-legged frogs (FYLF) (*Rana boylii*) and hardhead (*Mylopharodon conocephalus*), United States Department of Agriculture-Forest Service (USDA-FS) Sensitive Species and California Department of Fish and Game (CDFG) Species of Concern; and rainbow trout." However, then in Section 3.0, PCWA states that "The objective of the WTMP is to collect periodic water temperature data at select sites in bypass reaches associated with the MFP with known populations of FYLF." Monitoring is then only proposed on the Middle Fork American River from Middle Fork Interbay to Ralston Afterbay and Rubicon River from Hell Hole Dam to Ralston Afterbay. The resource agencies look forward to working with the licensee to develop a monitoring plan that will help determine how temperatures in all project-affected reaches are altered by new flow measures or changes to project infrastructure.

Table 1: The North Fork American River and North Fork of the Middle Fork American River should be included as reference reaches to assist with future analyses with FYLF population dynamics for understanding project-related affects versus natural climatic conditions. These two sites would be collected during years of FYLF monitoring.

Recreation Plan

No protection measures for sensitive plants were found here although the Environmental Effects section for Botanical and Wildlife Resources refer to some measures.

Other Monitoring Plans That Should be Included

Water Quality Monitoring Plan

In reviewing the DLA, the resource agencies are unable to locate draft plans for water quality monitoring of water bodies affected by facilities and operation of the MFAR Project. The FLA should include a detailed water quality monitoring plan to track water quality parameters in diverted stream reaches and reservoirs at through the term of the license.

Anticipated changes in stream flow, reservoir surface elevations, recreation access, sediment management, and other factors all have potential to alter water quality and aquatic health and must be monitored to ensure no degradation of the existing condition. An acceptable monitoring plan should include, at a minimum:

- Standard *in-situ* sampling (pH, temperature, DO, turbidity, TDS, and other applicable parameters).

- Water chemistry sampling (metals, hardness, nutrients, petroleum products, herbicides, and other applicable parameters),
- Bacteria sampling (to characterize water quality conditions for contact recreation locations within project waters).
- Documentation of procedures used to meet water-related Best Management Practices.

Details on sampling locations, frequency, field methods, analytical methods, and other items should be developed in consultation with the resource agencies. The resource agencies continue to recognize the expertise and regulatory authorities of the SWRCB and desire consistency with data collection and laboratory methods that will meet the standards required by that agency.

Bioaccumulation Monitoring Plan

The resource agencies propose that the following methylmercury Bioaccumulation Monitoring Plan be included in the FLA.

Background and Rationale for Monitoring

The DLA does not include a monitoring plan for ongoing assessment of mercury uptake by aquatic organisms resident within Project waters. Data collected in screening level study throughout the Project finds fish tissue mercury concentrations that consistently exceed OEHHA screening criteria (AQ 11, Table AQ 11-3). Fifteen of 33 individual fish collected in Hell Hole Reservoir carry body burdens of methylmercury that exceed the USEPA threshold of 0.3 ppm, and pose a risk for human health and wildlife consumption. Reservoirs operated by the licensee have the potential to impound sediments and organic materials that may transport bound metals. Impounded metals have the potential to concentrate, methylate and become bioavailable to aquatic organisms. Metals that are bioaccumulated in the aquatic prey-base may bioconcentrate up through the food chain where elevated levels could become health risks to human and wildlife consumers. Monitoring at 5-year intervals will provide an index of changes in fish body burdens of mercury.

The resource agencies request that a Mercury Bioaccumulation Monitoring Plan be included in the FLA to provide tracking of bioaccumulation trends within the MFP. Resource agencies recommend that the following method and schedule be considered:

Method

Resident fish species from Hell Hole Reservoir, French Meadows Reservoir, Oxbow Reservoir and the MFAR near Otter Creek will be collected and analyzed to determine tissue residue levels of mercury. Target species, numbers of individuals, sampling strategy, and analytical methods used will be consistent with current Surface Water Ambient Monitoring Program needs (SWRCB), and will be defined prior to each sampling event through consultation with FS, CDFG, SWRCB, RWQCB and the state Office of Environmental Health Hazard Assessment. Fish tissue samples will be collected and analyzed for rates of bioaccumulation, and monitoring will continue through the term of the new Project License or as directed by RWQCB Basin Plan or TMDL.

Frequency

Monitoring of Hell Hole Reservoir, French Meadows Reservoir, Oxbow Reservoir and the MFAR near Otter Creek, should occur no less than once every 5 years beginning in year 2 following license issuance.

Benthic Macroinvertebrate Monitoring Plan

In reviewing the DLA, the resource agencies are unable to locate draft plans for monitoring of benthic macroinvertebrates (BMI) within stream channels that will be altered by changes in flow or facility modification and operation of the MFAR Project. BMI population data provides important information on primary production and prey base availability for fish and other aquatic life, and serves as a direct indicator for water quality and aquatic health. The FLA should include a monitoring plan to characterize trends in the benthic macroinvertebrate assemblages in Duncan Creek, South Fork Long Canyon Creek, North Fork Long Canyon Creek, Rubicon River, MFAR below French Meadows Dam, MFAR below Interbay Dam, and the MFAR downstream of Oxbow Dam. The BMI monitoring plans should be designed to track changes in BMI population dynamics in project-affected stream reaches through the term of the license and provide information relevant to stream fish condition factor. A correlation between changes in BMI assemblages and fish condition factor (FPMP, Section 4.3.3) on specific stream reaches would be useful in any reporting effort. Resource agencies look forward to working cooperatively with the Licensee and other relicensing participants, to develop an appropriate plan for assessment of BMI health on diverted stream channels of the MFAR project.

Western Pond Turtle (WPT) Monitoring Plan

The resource agencies propose the following monitoring plan for Western Pond Turtle be included in the FLA.

Background and Rationale for Monitoring

The DLA does not include a species-specific monitoring plan for WPT. Western pond turtles are a Forest Service Sensitive Species and a California State Species of Concern. Western pond turtles are negatively affected by human disturbance, reduced water temperatures, and aseasonal flows. Existing information on WPT within the project area is from “historic” data or incidental sightings during surveys for other aquatic species by PCWA/ENTRIX.

Based on PCWA (2008), Western Pond Turtles were found in the following locations:

RIVER	SITE NAME	DATE	TURTLE NOTES
MF American	MF 4.8	7/2007	1 female, ~6 yrs old
MF American	MF 11.0	9/2007	1 adult in mainstem, upstream of Canyon Crk
MF American	MF 14.1	7/2007	1 female, ~ 7 yrs old
Otter Creek	MF 14.1	6/2007	1 male, ~ 7 yrs old 2 hatchlings
NF American	NF 31.3	10/2007	1 adult (Oct)

			1 subadult (no date) ~ 1 mile downstream of Ponderosa Bridge
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Six of 8 WPT sightings were in the MFAR peaking reach; 3 of these 6 were in the mainstem and the other 3 were in Otter Creek. It is surprising that WPT were not seen in the warmer reaches of the Rubicon, the MFAR above Oxbow Powerhouse, the North Fork of the MFAR, or any of the reservoirs. WPT are easily disturbed and are known to take cover underwater for long periods of time. Based on the information we have from AQ-12 TSR, the agencies recommend that the first step for monitoring is to gather more complete information on the distribution and relative abundance of WPT within the project area. Proposed phases of work are:

Phase I – Distribution Assessment

- A minimum of 2 years of WPT-focused surveys to better document the distribution of the WPT populations in the project area;
- The 2 years must occur as soon as possible after the license is issued but must also represent different water year types;
- Surveys should occur in all project-affected rivers and reservoirs within the appropriate elevation, including a sampling of larger tributaries (especially in the peaking reach);
- To improve detection rates, surveys should involve timed viewing (minimum of 2 hours) of deep pools that have appropriate access to potential upland nesting sites with basking sites in or at the edge of the pool. If pools seem otherwise appropriate, but have few natural basking sites temporary basking platforms may be added to increase detection (see Nevada Irrigation District and Pacific Gas and Electric Company 2010 for an example).

Phase II – Relative Abundance and Age Class Baseline Monitoring

Once a better understanding of WPT distribution is known, baseline population monitoring would be conducted at representative river/reservoir sites with WPT populations that are likely to be affected by changes in flows/water temperatures resulting from the new license. This monitoring should address the following questions:

- What is the relative abundance of WPT?
- What is the sex, size, and age class distribution of WPT?

Some potential methods include: snorkel surveys with multiple visits and multiple observers (which includes capturing turtles), capture-mark-recapture sampling, multiple basking site surveys (though size, sex, and age information will not be as accurate using these methods).

Phase III - License Period Monitoring

Populations where baseline data was collected in Phase II would then be monitored over the period of the license. The frequency of that monitoring should be such that the following questions can be addressed:

- Is there an increasing, decreasing, or stable trend in relative abundance over time?

- How are the sex, age, and size class distributions changing over time?
- River reaches/reservoirs with no WPT detections from 2 year survey would be resurveyed once every 5 years to determine if WPT distributions are changing within the project area.

Also include a section on data analysis and adaptive management.

Comprehensive Evaluation of Monitoring Data

Align locations and timing of other post-license monitoring (e.g., water temperature, discharge, geomorphology) so that it is both temporally and spatially relevant to WPT population monitoring.

References

Nevada Irrigation District and Pacific Gas and Electric Company. 2010. Technical Memorandum 3-14, Western Pond Turtle Basking Study. Yuba-Bear Hydroelectric Project FERC Project No. 2266-096 and Drum-Spaulding Project FERC Project No. 2310-173. 28pp. (September).

Placer County Water Agency. 2008. AQ 12 – Special-Status Amphibian and Aquatic Reptile Technical Study Report – 2007. Placer County Water Agency, Middle Fork American River Project, FERC No. 2079. 268pp. (June).

Mollusk Monitoring Plan

If *Margaritifera falcata* is designated a FS Sensitive species, then a monitoring plan should be developed for this species. This also pertains to any other new TES listing of any species.

Sensitive Plant Monitoring Plan

The plan should address the schedule of implementation. Stebbins' phacelia and periodic monitoring for new occurrences would be included as well as monitoring for infestations of invasive plant species within sensitive plant occurrences. The plan should address any new listings of special status plant species and monitoring for their existence.

Comprehensive Evaluation of Monitoring Data

The resource agencies propose to add the following section to relevant monitoring plans or to an overview monitoring plan document:

Align locations and timing of other post-license monitoring (e.g., water temperature, discharge, geomorphology) so that it is both temporally and spatially relevant to FYLF population monitoring.

Instream Flow and Reservoir Minimum Pool Measures

The resource agencies have reviewed the licensee’s Instream Flow and Reservoir Minimum Pool Measure and have attached an alternative proposal for minimum flows that is nearly identical to the licensee’s proposal: however, there are some areas of difference as follows:

- The resource agencies have reorganized the water year type and minimum streamflow sections to be easier to read and to provide “license condition” language (except for the Middle Fork American River below Ralston Afterbay Dam).
- The resource agencies have changed the water year type forecasting time periods, and the peaking reach water year type forecasting is the same as the water year type forecasting for other reaches.
- The resource agencies would like further discussion on ramping rates in light of recent information related to foothill yellow-legged frogs.
- The resource agencies do not agree with the maximum flow release (900 cfs) proposed for Oxbow Powerhouse in Dry, Critically Dry, and Extreme Critically Dry water year types.
- The resource agencies would like further discussion on the proposal for forced or unplanned outage flows in the peaking reach.
- The resource agencies have changed the minimum streamflows in the Below Normal water year type in North Fork Long Canyon from 10 cfs to 11.5 cfs in the months of April and May.
- The resource agencies would like further discussion on the streamflow regime for the MFAR below Oxbow Powerhouse and have included priority interest objectives below.
- The resource agencies would like further discussion on the geomorphic flows, especially for the Rubicon River below Hell Hole Reservoir Dam.

The resource agencies’ water year type and minimum streamflow language follows:

Minimum Streamflows

The licensee shall, beginning as early as reasonably practicable within 3 months after license issuance, maintain minimum streamflows in Duncan Creek below Duncan Diversion Dam, Middle Fork American River below French Meadows Dam, Middle Fork American River below Interbay Dam, Rubicon River below Hell Hole Dam, North Fork Long Canyon Creek below North Fork Long Canyon Diversion Dam, South Fork Long Canyon Creek below South Fork Long Canyon Dam Middle Fork American River immediately below Ralston Afterbay Dam, Middle Fork American River below Oxbow Powerhouse,. For compliance purposes, the point of measurement for each required minimum streamflow is described in the introduction to the minimum streamflow schedule for that particular stream reach. All specified streamflows are in cubic feet per second (cfs). The schedules specify minimum streamflows, by month and water year type, for each of the specified stream reaches. While the licensee may calculate and report mean daily streamflow values, the instantaneous measurements should never fall below the thresholds specified in the respective minimum streamflow schedules (except as authorized below).

Temporary Minimum Streamflow Modifications

The minimum streamflows specified in the schedules may be temporarily modified if required by equipment malfunction or operating emergencies reasonably beyond the control of the licensee. If the streamflow is so modified, the licensee shall provide Notice to *FERC*, *FS*, *CDFG*, and the *SWRCB* as soon as possible, but no later than 10 days after such incident. The minimum streamflows specified may also be temporarily modified for short periods in non-emergency situations 5 days after Notice to *FERC*, and upon approval of *FS*, *CDFG*, and *SWRCB*.

Facility Modifications

Where facility modification is required to maintain the specified minimum streamflows, the licensee shall complete such modifications as soon as reasonably practicable and no later than 3 years after license issuance. Prior to such required facility modifications, the licensee shall make a good-faith effort to provide the specified minimum streamflows within the capabilities of the existing facilities. In order for the licensee to adjust operations to meet the required minimum streamflows, the licensee shall have a 3-year period after the license is issued or 3 years after completion of necessary facility modifications, whichever is later, in which daily mean streamflows may vary up to 10 percent below the amounts specified in the minimum streamflow schedules, provided that the average monthly streamflow in any given month equals or exceeds the required minimum streamflow for the month. After the applicable period, the licensee shall meet the minimum streamflow requirements specified in the minimum streamflow schedules.

Water Year Types

The minimum streamflow schedules have been separated into six water year types: Wet, Above Normal (AN), Below Normal (BN), Dry, Critically Dry (CD), and Extremely Dry (ED). The licensee shall determine the water year type based on the water year forecast of unimpaired runoff in the American River below Folsom Lake published, near beginning of each month from February through May, in the California Department of Water Resources (DWR) Bulletin 120 “Report of Water Conditions in California.” Specifically, the “American River Below Folsom Lake” forecast is currently shown in the “Water Year Forecast” column of the “Water Year Unimpaired Runoff” table in Bulletin 120. The water year types are defined as follows:

<u>Year Type</u>	<u>American River Water Year Forecast</u>
Wet	greater than or equal to 3,400,000 acre-feet (AF)
AN	greater than or equal to 2,400,000 AF and less than 3,400,000 AF
BN	greater than or equal to 1,500,000 AF and less than 2,400,000 AF
Dry	greater than or equal to 1,000,000 AF and less than 1,500,000 AF
CD	greater than or equal 600,000 AF and less than 1,000,000 AF
ED	less than 600,000 AF

From May 1 to October 31, the licensee shall determine the water year type based on the DWR Bulletin 120 forecast for April and shall operate for those months based on that forecast.

From November 1 to March 14, the licensee shall determine the water year type based on the Department of Water Resources’ Full Natural Flow record for the American River at Folsom (California Data Exchange Center site AMF sensor 65) for the preceding water year, and the

licensee shall operate based on that record beginning November 1 and shall continue until March 14.

From March 15 to April 30, the licensee shall determine the water year type based on the DWR Bulletin 120 forecast for March and shall operate for those months based on that forecast.

The licensee shall provide Notice to FS, *FERC*, *CDFG*, and *SWRCB* of the all water year type determinations throughout the year within 10 days of determining the water year type.

Duncan Creek below Duncan Creek Diversion Dam

The licensee shall maintain the minimum streamflow specified in the following schedule based on month and water year type. Minimum streamflows shall be measured at USGS gage 11427750, Duncan Canyon Creek Below Diversion Dam Near French Meadows CA.

Duncan Creek Below Duncan Diversion Dam						
Month	Minimum Streamflow by Water Year (cfs)					
	ED/CD	DRY	BN	AN	WET	
OCT	4 or NF	8 or NF	8 or NF	8 or NF	8 or NF	
NOV	4 or NF	8 or NF	8 or NF	8 or NF	8 or NF	
DEC	4 or NF	8 or NF	8 or NF	8 or NF	8 or NF	
JAN	4 or NF	8 or NF	8 or NF	8 or NF	8 or NF	
FEB	4 or NF	8 or NF	8 or NF	8 or NF	8 or NF	
MAR 1-14	4 or NF	8 or NF	8 or NF	8 or NF	8 or NF	
MAR 15-31	8.5 or NF	11 or NF	12.5 or NF	16 or NF	16 or NF	
APR	13 or NF	14 or NF	17 or NF	24 or NF	24 or NF	
MAY	13 or NF	14 or NF	17 or NF	24 or NF	24 or NF	
JUNE	13 or NF	7 bor NF	8.5 or NF	12 or NF	12 or NF	
JULY	No Div	No Div	No Div	No Div	No Div	
AUG	No Div	No Div	No Div	No Div	No Div	
SEPT	No Div	No Div	No Div	No Div	No Div	

Middle Fork American River Below French Meadows Reservoir Dam

The licensee shall maintain the Minimum streamflows shall be measured at USGS gage 11427500, Middle Fork American River at French Meadows, CA.

Middle Fork American River Below French Meadows Reservoir Dam						
Month	Minimum Streamflow by Water Year (cfs)					
	ED/CD	DRY	BN	AN	WET	
OCT	8	9	10	11	13	
NOV	8	9	10	11	13	
DEC	8	9	10	11	13	
JAN	8	9	10	11	13	
FEB	8	9	10	11	13	
MAR 1-14	8	9	10	11	13	
MAR 15-31	11	11	11.5	15.5	16.5	
APR	11	13	13	20	20	
MAY	11	13	13	20	20	
JUNE	8	11	11.5	15.5	16.5	
JULY	8	9	10	11	13	
AUG	8	9	10	11	13	
SEPT	8	9	10	11	13	

Middle Fork American River Below Interbay Dam

The licensee shall maintain the minimum streamflow specified in the following schedule based on month and water year type. Minimum streamflow shall be measured at USGS gage 11433085, North Fork Long Canyon Creek Below Diversion Dam, Near Volcanoville, CA.

Middle Fork American River Below Middle Fork Interbay Dam						
Month	Minimum Streamflow by Water Year (cfs)					
	ED/CD	DRY	BN	AN	WET	
OCT	12	24	24	25.5	25.5	
NOV	12	24	24	25.5	25.5	
DEC	12	24	24	25.5	25.5	
JAN	12	24	24	25.5	25.5	
FEB	12	24	24	25.5	25.5	
MAR 1-14	12	24	24	25.5	25.5	
MAR 15-31	16.5	25	32	45	47	
APR	18	27	40	65	65	
MAY	18	27	40	45	65	
JUNE	12	24	24	25.5	47	
JULY	12	18	24	25.5	34	
AUG	12	18	24	25.5	34	
SEPT	12	18	24	25.5	34	

Rubicon River Below Hell Hole Reservoir Dam

The licensee shall maintain the minimum streamflow specified in the following schedule based on month and water year type. Minimum streamflow shall be measured at USGS stream gage 11428800, Rubicon River below Hell Hole Dam, Near Meeks Bay, CA. (Note: Spill flows should continue to be estimated using the reservoir water surface elevation and the spillway rating curve.)

Rubicon River Below Hell Hole Reservoir Dam						
Month	Minimum Streamflow by Water Year (cfs)					
	ED/CD	DRY	BN	AN	WET	
OCT	15	20	20	25	25	
NOV	15	20	20	25	25	
DEC	15	20	20	25	25	
JAN	15	20	20	25	25	
FEB	15	20	20	25	25	
MAR 1-14	15	20	20	25	25	
MAR 15-31	31	35	42	55	60	
APR	31	35	42	55	60	
MAY	23	35	42	55	60	
JUNE 1-14	19	28	31	50	50	
JUNE 15-30	15	20	20	40	40	
JULY	15	20	20	30	30	
AUG	15	20	20	30	30	
SEPT	15	20	20	30	30	

North Fork Long Canyon Creek Below North Fork Long Canyon Diversion Dam

The licensee shall maintain the minimum streamflow specified in the following schedule based on month and water year type. Minimum streamflow shall be measured at USGS gage 11433085, North Fork Long Canyon Creek Below Diversion Dam, Near Volcanoville, CA.

North Fork Long Canyon Creek Below North Fork Long Canyon Diversion Dam						
Month	Minimum Streamflow by Water Year (cfs)					
	ED/CD	DRY	BN	AN	WET	
OCT	2 or NF	2 or NF	2 or NF	2 or NF	2 or NF	
NOV	2 or NF	2 or NF	2 or NF	2 or NF	2 or NF	
DEC	2 or NF	2 or NF	2 or NF	2 or NF	2 or NF	
JAN	2 or NF	2 or NF	2 or NF	2 or NF	2 or NF	
FEB	2 or NF	2 or NF	2 or NF	2 or NF	2 or NF	
MAR 1-14	2 or NF	2 or NF	2 or NF	2 or NF	2 or NF	
MAR 15-31	6 or NF	10 or NF	7 or NF	7 or NF	7 or NF	
APR	6 or NF	10 or NF	11.5 or NF	11.5 or NF	11.5 or NF	
MAY 1-14	6 or NF	10 or NF	11.5 or NF	11.5 or NF	11.5 or NF	
MAY 15-31	2 or NF	5 or NF	11.5 or NF	11.5 or NF	11.5 or NF	
JUNE	2 or NF	5 or NF	5 or NF	6 or NF	6 or NF	
JULY	No Div	No Div	No Div	No Div	No Div	
AUG	No Div	No Div	No Div	No Div	No Div	
SEPT	No Div	No Div	No Div	No Div	No Div	

South Fork Long Canyon Creek Below South Fork Long Canyon Diversion Dam

The licensee shall maintain the minimum streamflow specified in the following schedule based on month and water year type. Minimum streamflow shall be measured at USGS gage 11433065, South Fork Long Canyon Creek Below Diversion Dam, Near Volcanoville, CA.

South Fork Long Canyon Creek Below South Fork Long Canyon Diversion Dam						
	Month	Minimum Streamflow by Water Year (cfs)				
		ED/CD	DRY	BN	AN	WET
	OCT	2.5 or NF	5 or NF	5 or NF	5 or NF	5 or NF
	NOV	2.5 or NF	5 or NF	5 or NF	5 or NF	5 or NF
	DEC	2.5 or NF	5 or NF	5 or NF	5 or NF	5 or NF
	JAN	2.5 or NF	5 or NF	5 or NF	5 or NF	5 or NF
	FEB	2.5 or NF	5 or NF	5 or NF	5 or NF	5 or NF
	MAR 1-14	2.5 or NF	5 or NF	5 or NF	5 or NF	5 or NF
	MAR 15-31	4.5 or NF	8.5 or NF	8.5 or NF	9.5 or NF	9.5 or NF
	APR	6 or NF	12 or NF	12 or NF	14 or NF	14 or NF
	MAY	6 or NF	12 or NF	12 or NF	14 or NF	14 or NF
	JUNE	3 or NF	5 or NF	6 or NF	7 or NF	7 or NF
	JULY	No Div	No Div	No Div	No Div	No Div
	AUG	No Div	No Div	No Div	No Div	No Div
	SEPT	No Div	No Div	No Div	No Div	No Div

Middle Fork American River Immediately Below Ralston Afterbay Dam

The licensee shall maintain the minimum streamflow of 3 cfs year-round immediately below Ralston Afterbay Dam. Minimum streamflow shall be measured with a new USGS gage downstream of the Oxbow Powerhouse and upstream of the North Fork of Middle Fork American River.

Middle Fork American River Below Ralston Afterbay Dam

The resource agencies continue to work with relicensing participants on a flow regime for this reach. The resource agency interests are to:

- Ensure that the flow regime is consistent with the Wild and Scenic River designation for the reach.
- Provide whitewater boating.
- Increase BMI prey base and food production for rainbow trout.
- Provide opportunity for dispersal of foothill yellow-legged frogs among tributaries during the fall maintenance outage.
- Minimize the effects of flow fluctuation during biologically sensitive reproductive periods for rainbow trout.
- Ensure that the Riparian Conservation Objectives in the Sierra Nevada Forest Plan Amendment are met.

Specific interests related to whitewater boating in the peaking reach are:

Tunnel Chute Run

- A key interest of the resource agencies is to maintain the current level of whitewater boating flows that have been provided for the Tunnel Chute run over the past decade or more. These recreation flows of 1,000 cfs, for 3 or 4 hours, between 8 or 9am and noon, for seven days per week from May through September in most water year types. While the DLA does provide whitewater boating flows in Volume 3, Exhibit E, Book 3, the resource agencies believe that in some instances the proposed recreation flows in the DLA may be less than what has actually been provided in the past for all water year types.
- The resource agencies believe that the flow magnitude for whitewater boating flows on the Tunnel Chute Run, should be 1,000 in all water year types. In Volume 3, Exhibit E, Book 2, Environmental Effects of the Proposed Action, the DLA provides information for the acceptable flow ranges for four whitewater boating runs on the peaking reach, including the Tunnel Chute Run, the Mammoth Bar Run, the Murderer's Bar Run and the Confluence Run. These acceptable flow ranges were developed based on the whitewater recreation flow studies. The resource agencies commented on the reports of these flow studies in an October 2009 letter, including specific comments on the identified acceptable flow ranges stated in these reports. The resource agencies have also reviewed the individual survey forms from the whitewater recreation flow studies.
- As previously stated in comments on the recreation flow studies, the resource agencies do not believe that 800-900 cfs is an appropriate minimum acceptable flow for whitewater boating on the Tunnel Chute Run. The resource agencies believe that 1,000 cfs is the minimum acceptable flow to provide for whitewater boating on this run. This Class IV run has steep, rocky technical drops and the 100-200 cfs difference between 800 or 900 cfs and 1,000 cfs is significant. As noted in Appendix Q of the whitewater recreation flow study, at 1,000 cfs the rocks and boulders on the run are covered with water, there are more and better routes through the rapids and safety concerns relative to swims are reduced as compared to the lower flows. Reading the completed survey forms of the participants in the flow study for this run is also revealing. Despite marking on the form that 800 cfs would be an acceptable flow, several of these same respondents go on to note that the "rapids are much safer with more water" or note the problems of boating at 800 cfs including greater potential for wraps, pins and dangerous swims. The CDPR whitewater ranger, with more than 20 years of experience on this river and run, firmly believes that 1,000 cfs is the appropriate minimum acceptable flow. The resource agencies believe that recreation flows provided as part of license requirements should be developed closer to the low end of optimal flows particularly when optimal flows reduce safety concerns.

Mammoth Bar and Confluence Runs

- The resource agencies have a strong interest in the licensee providing adequate recreation flows for the Mammoth Bar and Confluence runs earlier in the day during the summer season, from mid-May through September, than currently occurs. Specifically, the resource agencies are interested in the licensee providing recreation flows of a minimum of 800 cfs at the Confluence by 2pm several days per week (and by noon at least one weekend day) from mid-May through September in most water year types. The travel time for flows down the peaking reach varies depending on the minimum and peak flows. As noted in AQ-1, the Instream Flow Technical Study Report, with a base flow of 200 cfs and a peak flow of 1,000

cfs, the travel time from Oxbow to the Confluence is 9.7 hours. Over the past decade or two, the summer peak flows of approximately 1,000 cfs have not reached the Confluence until 5 or 6pm. For much of this time this wasn't an issue because the river was closed to recreation use below the Confluence due to the danger of the Auburn Dam diversion tunnel, which diverted the entire river through a half mile tunnel at the Auburn Dam site.

- In 2008, PCWA and Reclamation completed the American River Pump Station project which, in addition to constructing a pump station, closed the diversion tunnel and restored the river to its historic channel. The Confluence Run has been available for public use since that time. The China Bar run slowly gained popularity in the first two seasons of use (2008-2009) that this stretch has been available. This Class 2 run, which is accessible to a wide range of boating skill levels, is very close to the City of Auburn and highly accessible via Highway 49. The man-made bypass channel constructed as part of the Pump Station diversion was designed to be attractive to whitewater boaters. This run can serve a variety of recreational boating interests, from casual down river boaters enjoying the scenery, to whitewater play boaters who are attracted to the waves and holes on the run a certain flows. While the vast majority of the use on the Tunnel Chute is provided by commercial whitewater outfitters, the use of the Confluence run is "private" boating use. A whitewater festival was held on this run in 2010 which attracted several hundred participants and spectators. Provided adequate flows are available at appropriate times and sufficient access is provided, the resource agencies expect this run to become very popular in the future.
- The DLA indicates the acceptable minimum boating flows for the Confluence Run are from 350 to 600 cfs. The flow study was based on seven survey participants at the lowest flow of 368 cfs and five participants at flows of 600, 800 and 1,000 cfs. These are not large sample sizes. A number of these participants indicated the minimum acceptable flow was 600 cfs and others made comments that more water would be better and provide greater room to maneuver. Some study participants also noted that even at flows of 800 cfs, the water level was shallow and rocky at the Pump Station Bypass channel. One participant noted that the bypass channel was nearly unnavigable at 368 cfs. It is the resource agencies' understanding that the Pump Station bypass channel was designed to accommodate recreation boating at a range of flows with a minimum flow of 600 to 800 cfs. Understanding the range of flows for which the bypass channel was designed could help inform the acceptable minimum flows for this run. The resource agencies believe that a flow of 800 cfs may provide the best recreation opportunities for a variety of watercraft on the Confluence Run.
- The DLA provides an "early release flow" of 800 cfs only in the Wet and Above Normal water year types. The resource agencies believe there is adequate water volume in the MFAR system in most water years to provide early recreation flows to the Confluence along with the other desired flows, which include whitewater recreation flows for the Tunnel Chute Run and higher minimum streamflows. However, the limited storage capacity of Ralston Afterbay is a key constraint in the MFAR system in meeting the various flow needs and demands in the peaking reach and in retaining the licensee's desired flexibility (daily, weekly, and seasonally) in operating their system and maximizing peak power generation. If there is limited opportunity to increase the storage capacity of Ralston Afterbay, the resource agencies believe some shifting of the timing of power generation in the Middle Fork and Ralston Powerhouses, in order to maintain appropriate reservoir levels at Ralston Afterbay, may be necessary and reasonable in order to meet the various flow demands in the peaking

reach. Such shifting of the timing of generation does not necessarily result in a loss of generation but may reduce the value of generation.

- In addition to providing scheduled recreation flows for the Confluence run during the mid-May through September season, the resource agencies believe there is some interest and demand for off-season boating opportunities on this run. Unlike the Class IV Tunnel Chute Run, the Class II Confluence run is less challenging (not likely to get as wet), easily accessible, and more attractive to boaters in the off season. The resource agencies have an interest in seeing Confluence recreation flows provided in the fall and winter after the October maintenance “outage” period. This interest would be served by providing adequate recreation flows that reach the Confluence during mid-day on weekend days during the November to February time period. The number of days per month that these flows would be provided would depend on the water year type.
- The DLA indicates that the “early release flows” targeted for the Confluence Run would be measured at a new proposed gage above the American River Pump Station. Any required recreation flows targeted for the Confluence Run or minimum streamflows would need to account for diversions that would occur at the American River Pump Station, which is in the middle of the Confluence Run, and provide the additional flow needed to meet both the minimum recreation flow and the amount of flow to be diverted at the American River Pump Station for consumptive use.
- The resource agencies also have an interest in seeing peak recreation flows reach the Mammoth Bar run at a reasonable time of day, between 10am and 1pm depending on the water year type, during the mid-May through September boating season. The put-in for this run is below Ruck-a-Chucky Rapid at the Greenwood river access site. With a base flow of 200 cfs and a peak flow of 1,000 cfs, the water travel time from Oxbow to the Confluence is about 6 hours. At this base flow, if 1,000 cfs is to be provided for recreational boating on the Tunnel Chute Run at 8am or 9am, the peak flows would not reach the Mammoth Bar run until 2-3pm.
- As with the Tunnel Chute and Confluence Runs, the resource agencies do not agree with the DLA that 500-600 cfs is an acceptable minimum flow for the Mammoth Bar Run. Again, these flow studies were based on four or five participant surveys at the two target flows. This is not a large sample size on which to base acceptable minimum flow decisions. Again, in reviewing the four individual survey forms for the 600 cfs target flow, at least one of the four indicated 600cfs was “unacceptable.” All of the participants on the flow studies for the Mammoth Bar Run were using inflatable kayaks or hard shell kayaks; none were in rafts. The resource agencies do not agree that 500-600 cfs is an acceptable minimum flow for this run in all crafts and believe that 800-1,000 cfs is a more appropriate minimum acceptable flow for this run.

Stream Gages

There are currently 28 stream gages located on National Forest lands that are under a special use authorization that expires in 2016. In information provided to the permit administrator by the licensee on December 8, 2010, the licensee has proposed bringing most of these gages into the FERC boundary. There are at least 2 gages (or ancillary feature e.g. cable way) that would continue to provide project information and would need continuing special use authorization. There are five new gages proposed with a location to be determined; the licensee shall obtain

authorization if these, or any other gages are not located in the FERC boundary and on National Forest lands.

Geomorphic Flows

Page 4, Pulse Flows, Section 1.2.2: Ramping rates need to be included.

Pages 6-8. The timing of pulse flows should not be date-specific but should be coincident with conditions that are occurring within the watershed (snowmelt. The timing of the pulse flows should be consistent with snowmelt.

Initiation of Motion Analysis

Page 7.7-6. The methodology used to determine the initial recommended pulse flows (focused on the discharge at which initiation of motion would occur for 25 percent of gravels), appears to be based on calculations for bulk sediment samples, rather than actual measurement of bedload transport. There are multiple factors associated with the initiation of motion calculations that may result in a substantial amount of potential error in the proposed values for initiation of motion. For example:

- Modeling appears to be based on the transport model (a model for mixed sand/gravel sediments) by Wilcock and Crowe (2003); however, how closely the details of the methodology used follow Wilcock and Crowe's method is not entirely clear. It needs to be clarified which elements of the methodology used were adaptations/deviations from the Wilcock and Crowe method.
- In the licensee's study, for the surface layer for bulk samples used in initiation of motion calculations, "surface" was defined as "a depth equal to the maximum particle size. (SD-B, AQ1, p. 22)." It is not clear whether the maximum particle sizes were used to define the "surface" layer at each site. It would seem that large maximum particle sizes could affect the transport estimates by effectively turning a "surface sample" into a bulk sample. Predicting transport from bulk grain size is potentially a problem because "uncontrolled variation in the relevant initial and boundary conditions imposes unpredictable variability in transport rate (Wilcox and Crowe 2003, p. 120)."
- "The discharge at which initiation of motion occurred for 25 percent of the gravel [with gravel being defined as spawning gravel ranging from 0.3-2.5 inches (8-64 mm)] within the portion of the channel wetted at the high flow calibration discharge was used as the initiation of motion threshold (SD-B, AQ1, p. 23)." Target and actual instream flow modeling calibration flows are shown in Table AQ 1-5 (SD-B, AQ1, p. 58). Actual instream calibration flow was, in some instances, considerably lower than the target instream calibration flow. For example: (1) Hell Hole dam, the highest target calibration flow was 315cfs and the actual calibration flow was 77cfs; (2) Middle Fork Interbay, the highest target calibration flow was 374cfs and the actual calibration flow was 188cfs; and (3) for the Rubicon River below SF Rubicon River, the highest target calibration flow was 370cfs and the actual calibration flow was 130-218cfs.
- "Approximately 37 percent of the initiation of motion cross-sections were located in the tailout areas of pool habitat units. The remaining cross-sections were located in other types

of habitats (e.g. runs, low gradient riffles, high gradient riffles, pools) or complicated boulder channels. Some of these other habitat types were not as well-behaved for the hydraulic and sediment transport modeling (e.g. uncertain hydraulics or exhibited extremely high flows for initiation of motion). Problem sites were not included in the analysis (SD-B, AQ1, p. 23).” Please clarify the percentage of sites that were actually included in the analysis and the breakdown (habitat types, individual reaches) of sites that were and were not included.

- Initiation of motion calculations are based on the composition of the existing channel bed. Over time, however, the project may affect the composition of the channel bed due to trapping of sediment at reservoirs, infrastructure modifications, and sediment augmentation activities.

Due to the potential for error in the Initiation of Motion calculations, pulse flows should be based on an adaptive management approach that allows pulse flow magnitude and duration to be adjusted based on geomorphic objectives coupled with field monitoring of sediment transport and channel morphology.

Pulse flows based entirely on Initiation of Motion for spawning gravel do not take into account the full range of channel maintenance objectives. Objectives should include maintenance of all essential attributes of a properly functioning channel, including:

- Maintenance of a long-term sediment balance.
- Maintenance of appropriate riparian vegetation.
- Maintenance of streambank stability.
- Maintenance of functioning floodplains (construction, inundation, nutrient exchange).
- Prevention of in-channel vegetation encroachment;7) Maintenance of complex channel morphology.

Rubicon River Below Hell Hole Reservoir Dam

For the Rubicon River below Hell Hole, basing the final pulse flow on only what the valve is capable of achieving (based on a valve testing program over a period of several years) offers no guarantees in terms of geomorphic flows. A 200cfs pulse flow is not likely to meet geomorphic objectives for the following reasons:

- Based on information provided in Table 7.7-5, the draft license indicates that flow required to initiate motion of 25 percent of the gravel substrate within the high calibration flow wetted channel in the Rubicon River below Hell Hole Dam is expected to be 500cfs at R25.7, 678cfs at R20.9, and 2198cfs at R3.5 – values well above a 200 cfs pulse. Additionally, as mentioned in prior comments, the highest target calibration flows in the Rubicon River were low – 77cfs below Hell Hole Dam, and 130-218cfs for the Rubicon River below SF Rubicon River.
- As mentioned in previous comments, there are multiple factors associated with the initiation of motion calculations that may result in a substantial amount of potential error in the estimated discharges needed for initiation of motion provided in Table 7.7-5. Due to potential error in the estimates, it is possible that the actual discharges needed to initiate

motion of 25 percent of the gravel substrate may be significantly different than the estimates provided in Table 7.7-5.

- As mentioned in previous comments, setting pulse flow magnitudes based entirely on initiation of motion for 25 percent of spawning gravels does not take into account the full range of channel maintenance objectives.

Even if the desired pulse were achievable with the valve, the draft license states that "If the magnitude of the pulse flow changes, then the volume of the pulse will remain the same, but the duration and down ramp will be modified (Attachment A)." This appears to say that even if the pulse flow magnitude needed to meet geomorphic objectives were achievable with the valve, the licensee would shorten the duration and downramp of the pulse - the overall effect of which would likely be undesirable. Magnitude, duration, and ramping rate all need to be sufficient to achieve pulse flow objectives.

The resource agencies have an interest in further discussing geomorphic flows in this reach for the following reasons:

- The majority of the bypass reaches associated with the MFP are confined within narrow, fluviually dissected V-shaped valleys. However, the upper Rubicon River (from Hell Hole Dam downstream approximately 5 miles, is located within a wider, glacier formed u-shaped valley (page 7.7-2 of the Geomorphology Report).
- The resource agencies are interested in eliminating or reducing the continuous line of vegetation within the channel downstream of dam failure.
- The resource agencies are interested in improving stream and riparian habitat, especially since some of this was lost due to the dam failure.

Downramping

Basing downramping of flows (for either pulse flows or spills) on reduction to a minimum flow on a specified date or day, actually offers no guarantee of an appropriate downramp. For example, if the licensee released a 700 cfs pulse in the MFAR below French Meadows Reservoir Dam on May 2, held it at 700 cfs through May 18, and then dropped immediately to 16.5 cfs on May 22, specification of minimum flows on specified dates does not prevent this from happening. Ramping rates should be set based on acceptable change in water level in the stream/river for a specified flow range (as done in other licenses).

In addition, the resource agencies would like to discuss ramping rates with the licensees and other relicensing participants in light of recent information developed related to foothill yellow-legged frog ramping rate needs.

Timing of Pulse Flows

The resource agencies believe that pulse flows should be timed to coincide with conditions within the watershed (for example, snowmelt) rather than set dates in order to synchronize pulses with those that occur naturally in other parts of the watershed to the extent possible.

For the small diversion bypass reaches, basing the pulse flow on specified dates with a minimum release or inflow, whichever is less, does not guarantee pulse flows either. Essentially, unless natural pulses occur during the exact timeframe specified no pulse would be required. Pulse flows should be guaranteed.

Reservoir Minimum Pools

The reservoir minimum pool analysis does not address the issue of access to the upper portion of Hell Hole or the shallow water depths at the upper end of the French Meadows Reservoirs. Nor does the analysis address obstacles (e.g. tree stumps) at French Meadows Reservoir, and the related affect on recreational use at the reservoirs (REC-3 TSR (2010)). The TSR provides information regarding limitations on accessing the upper portion of the Hell Hole reservoir at various water surface elevations; it does not address obstacles at French Meadows. Provide an analysis regarding the effects of implementing an action. Additionally the minimum pool analysis should provide information regarding water surface elevation, as well as water volume and the effects to recreationists.

Limitations on Flow Releases

Setting limits on unseasonably high release flows should be considered in any areas where they have the potential to degrade the channel or disrupt the growth and establishment of riparian species.

Transportation System Management Plan

General Comments

Best Management Practices

According to the FS document *Water Quality Management for Forest System Lands in California – Best Management Practices* (2000), best management practices (BMPs) are intended to lead to the development of detailed protection measures to be applied during project development and onsite implementation. The intent is for an interdisciplinary team to identify the methods and techniques for applying BMPs for specific sites following onsite evaluation of the project area, in order to custom-fit the BMPs to the specific environment and project activity.

For example, BMP 2-7 “Control of Road Drainage” dictates that roads will be correctly drained to disperse water runoff to minimize the erosive effects of concentrated water flow. Some methods and techniques for draining a road are: outslope the road prism, install water bars, or inslope the road to a ditch line and install culverts. It is during the onsite evaluation of a specific road project that the appropriate method or combination of methods – to correctly drain the road – are identified. The methods are thereby custom-fitted to the physical or biological environment of the project area. (USFS 2000, pp 16-17).”

BMPs are referenced throughout the DLA; however, the manner in which they are used is often not sufficiently site- or activity-specific. Additionally, a revised Water Quality Management

Plan (BMPs) is currently under development and is expected to be completed in early 2011. For these reasons, additional analysis is needed with regard to development of site-specific BMPs in the project area. This comment is not limited to the Transportation System Management Plan, but is applicable to inclusion of BMPs in other portions of the document as well (including, but not necessarily limited to, Sediment Management Plan, Vegetation and Integrated Pest Management Plan, and Construction Projects).

Other General Comments

- All installed signage must meet current (Manual of Uniform Traffic Control Devices (MUTCD)) standards including a maintenance and replacement plan.
- Tables should reflect the need for periodic heavy maintenance and repair and surfacing of roads and parking areas.
- At 5-year intervals to coincide with other reviews, the licensee should plan to do vehicle count and characterization studies to ensure adequate roadway standards are in effect.
- Hell Hole boat ramp reconstruction addresses a turnaround, but it is not clear if this is an additional turnaround. Final design would include FS consultation. Please clarify when this work will be completed.
- Roads within Hell Hole Campground and French Meadows area need drainage work.
- Project trails located on National Forest lands need to meet FS trail maintenance standards.
- Licensee shall enter into a Road Use and Maintenance Agree with the Forest Service whereby the Licensee and the Forest Service determine the commensurate shares of road maintenance responsibilities and the methods for accomplishment of that work. Those commensurate shares are to include attributable recreation use as well as licensee's access to the project facilities.

Specific Comments

- Page 3.2. Cables are not an acceptable form of preventing access on National Forest lands.
- Page 4, Section 3.2, first paragraph. The first sentence should read that roads that are open to the public and maintained for passenger car access are managed at a higher level and use the range of Maintenance Level (ML)-3 to ML-5.
- Page 4, Section 3.2, first paragraph. The maintenance level of Duncan Diversion Road will not be changed from ML-2 to ML-3.
- Page 6, Section 5.2. This should be corrected to say that most paved roads in developed recreation sites are ML-5. Some of the native surface dispersed site are ML-2 and the aggregate surface sites are ML-3.
- Page 6, Section 6.0, Bullets referencing routine maintenance should include deferred maintenance of those roads and trails.
- Page 6.1. Special projects will require additional funding specific to the accomplishment of that project.
- Page 6.2.1. Maintenance activities will extend to the original construction limits (clearing limits for vegetation management) or beyond if damage is occurring.
- Page 6.2.2. The same comment apply this comment wherever the proposed limit is just the road surface.

- Page 6.4. This section should discuss the Brushy Canyon Adit road repairs, road repair for the Tunnel Rollout section (14N16A), and proposed work at the sediment layout area at road 14N25K.
- Page 6.5. The licensee should consult with the appropriate resource agency between consultation meetings to undertake immediate repairs if roads are found to be causing or are likely to cause environmental damage prior to the next scheduled consultation meeting.
- Maps. All road and trail identification tags should include the FS route number for reference. These are what the FS uses to identify roads and trails in its inventory system and are the “official” designation and coincide with FS published maps. PCWA identifiers are a good reference and crosscheck. It is unclear whether proposed new gages will require road or trail access during construction and subsequent operations and maintenance activities. If these gages will require and use trails, then they should be listed on the tables.
- Map D8. This is on the TNF and should be included in that section.
- Map D9. This map should be repeated in both sections as it shows routes on ENF and TNF.
- Map D10. Big Meadow Campground water supply access is on NFSR 14N43A. Roads 14N43A and 14N43B are mislabeled. The initial section of road 14N43 from FR2 to the “Project” section should be included in “Project Roads” and the project boundary adjusted. This section serves as campground access just as the listed section does.
- Map D13. Middle Meadow water supply is on NFSR 14N28A, not a trail. Please move this to the appropriate table.
- Please move road 14N16A to the project roads table and adjust the boundary accordingly. This route is closed to public motor vehicle access and should be listed as “Project.”
- Page 27, Table 3, Make the following corrections to the maintenance level of the following roads in these recreation facilities:
 - French Meadow Campground are ML-5 roads.
 - Lewis Campground are ML-5 roads.
 - Poppy Campground is ML-5.
 - Gates Campground are ML-5.
 - French Meadows Boat Ramp and Picnic are ML-5.
 - Maguire Boat Ramp is ML-5.
 - Coyote Campground are ML-4.
 - Maguire group are ML-5.
 - French Meadows Dump Station is ML-5.

Fire Prevention and Suppression Plan

Section 3.0, Responsibilities. Please add Cal-Fire and other Emergency Services.

Section 3.1, PCWA, fourth bullet. Please remove: “Actions that may endanger employee safety should not be taken. Project personnel should not attempt to suppress fires that cannot be safely contained.” Please add (from Attachment A of the FPSP): “Generally, the most fire knowledgeable person onsite shall assume responsibility for the initial attack on the fire. This person shall direct fire suppression activities until the fire is controlled or a USDA-FS person arrives and assumes responsibility for fire suppression activities.”

Section 3.1, PCWA, second set of bullet statements, first bullet. Please change to: “Direct fire-related activities for the Project, including fire suppression, until relieved by qualified fire suppression personnel.”

Section 3.1, PCWA, last bullet. Please add “..the first call is 911.”

Section 3.2.1, Chief Inspector, last bullet. Please change to “Stay onsite for one hour after power-driven machinery, welding, or blasting activity shutdown to conduct a visual survey of the operational area unless modified by project specific permits or plans or the Project Activity Level. If a fire results from these activities, the CI will attempt to put out the fire, or follow the procedures outlined in Section 7.0 for contacting assistance.”

Section 3.3.1 ENF and TNF and RDs. Please change “Project Fire Control Officer to “authorized District Ranger representative.”

Section 3.3.3. Please change “Project Fire Control Officer to “authorized District Ranger representative.” Please remove the third bullet; the Forest Service will not train PCWA or contract crews in fire suppression. Please remove the sixth and seventh bullets.

Section 4.0, Project Activity Levels. Please add “for the American River Ranger District (530) 367-2224” after “information line” For PAL information on the Georgetown Ranger District call 530-644-6048 and follow the instructions.

Section 6.3, Fire Equipment Requirements. Please add “as a minimum, comply with California State Public Resource Codes.”

Section 7.1, Wildland Fire Suppression. Please revise the two paragraphs so that 911 is the first call with follow up calls to PCWA and the TNF Emergency Command Center at (530) 477-7237 and the ENF Emergency Command Center at (530) 642-5170. Please change to: “Once qualified fire suppression personnel arrive onsite, they will assume command for wildland fire suppression activities and PCWA employees or contractor(s) will assist only as requested. A qualified Fire Investigation will commence as soon as possible to determine the cause of the fire.”

Section 7.2, Structure Suppression. Please change to: “In the event of a structural fire, call 911.” Please remove: “the USDA FS is not responsible for suppression or protection of Project facilities. However, the FS can assist qualified structural firefighters to prevent the spread of fire to wildland.”

Attachment A, PCWA Fire Suppression Action Plan. Please change to: “Generally, the most fire knowledgeable person onsite shall assume responsibility for the initial attack on the fire. This person shall direct fire suppression activities until the fire is controlled or qualified fire suppression personnel arrives and assumes responsibility for fire suppression activities. Please add that the first call is 911. Please change to: “Provide the Dispatcher with information as to the location, size of the fire, if help is required, and what action has been taken. Keep Dispatcher informed of changes in fire conditions and when qualified fire suppression personnel arrive and assume responsibility for fire suppression activities.”

Recreation Plan

The resource agencies have reviewed the Recreation Plan contained in the DLA. The resource agencies offer the following recreation plan to assist continued collaboration to develop a mutually agreeable final recreation plan. The resource agencies have not commented in detail on the environmental effects analysis associated with the licensee's proposed Recreation Plan since the environmental effects do not consider the resource agencies proposal as well. The primary areas of disagreement are as follows

- The Recreation Plan proposed by the licensee does not address all of the recreation opportunities and recreation facilities associated with the MFAR Project and Project operations. In particular, many of the facility needs and recreation visitor management needs within the peaking reach and along the bypass reaches are not addressed. The resource agencies proposed Recreation Plan also includes recreation facilities around the Project reservoirs that are not addressed in the licensee's proposal.
- The licensee's proposed Recreation Plan does not address certain information needs to adequately manage recreation use and to provide recreation opportunities throughout the life of the license.
- The licensee's resource protection measures are limited to measures needed during construction activities. The resource agencies' proposed Recreation Plan also addresses resource protection measures needed to manage for ongoing recreation use and impacts from recreation visitation.
- The resource agencies' proposed Recreation Plan builds on the licensee's proposal in regards to public information needs and needed improvements or modifications to existing recreation facilities within the MFAR Project.

Licensee's level of responsibility for funding of fish stocking program in French Meadows and Hell Hole Reservoirs.

Recreation Survey

The licensee shall conduct a Recreational Survey and Recreation Demand Assessment, and prepare a Report on Recreational Resources that is approved by FS, BLM, and/or Reclamation (as applicable) every 6 years from the date of license issuance. The Recreational Survey shall include, but not be limited to, changes in kinds of use and use patterns, levels of use, user survey as to preferences in recreation activities, kinds and sizes of recreational vehicles, preference for day use versus overnight use, carrying capacity information sufficient to indicate changes in capacity, and recreation user trends within the project area. The Recreation Demand Assessment shall include, but not be limited to, use information and occupancy rates at each of the recreation facilities identified in the Review of Recreation Developments Section below. The Report on Recreational Resources shall comply with FERC's regulations at 18 CF Section 4.51(f) (1996), or as amended, and address the elements identified above that are to be included in the Recreation Survey and Recreation Demand Assessment. The Report on Recreational Resources shall be provided to FS, BLM, and/or Reclamation (as applicable) for review and comment prior to being filed with FERC. Within 1 year of submission of the Report on Recreation Resources,

FS, BLM, and/or Reclamation will meet to discuss the results of the Report and make recommendations to address the findings. FS, BLM, and/or Reclamation reserves the authority to require changes in the Project and its operation to accomplish protection and utilization of National Forest System, Bureau of Land Management, or Bureau of Reclamation resources identified as a result of these surveys.

Forest Service Liaison

The licensee shall provide an individual for liaison with FS, whenever planning or construction of recreation facilities, other major Project improvements, and maintenance activities are taking place within the National Forest. The licensee agrees to cooperate with FS through this individual in contract review and work inspection.

BLM Liaison

The licensee shall provide an individual for liaison with BLM, whenever planning or construction of recreation facilities, other major Project improvements, and maintenance activities are taking place within the Bureau of Land Management. The licensee agrees to cooperate with BLM through this individual in contract review and work inspection.

Reclamation Liaison

The licensee shall provide an individual for liaison with Reclamation, whenever planning or construction of recreation facilities, other major Project improvements, and maintenance activities are taking place within the Bureau of Reclamation. The licensee agrees to cooperate with Reclamation through this individual in contract review and work inspection.

Review of Recreation Developments

The licensee shall schedule a meeting with FS, BLM, and/or Reclamation (as applicable) at least every 6 years to review all Project-related recreation facilities described below and to agree upon necessary maintenance, rehabilitation, construction, and reconstruction work needed and its timing, as described below. Because the standard life of recreation facilities ranges from 20 to 30 years, it is anticipated that during the life of the license, facilities that are currently in good condition may need to be redesigned and reconstructed to standards applicable at that time. The criteria for project selection will depend on the amount and type of use, current recreation facility policy, condition of facilities, effects on surrounding areas, and other factors. Following the review, the licensee shall develop a 6-year schedule for maintenance, rehabilitation, and reconstruction, which shall be approved by FS, BLM, and/or Reclamation (as applicable) prior to being filed with FERC.

The following recreation facilities, which are associated with the Project, shall be reviewed in fulfilling the requirements of this Section. As new facilities are constructed under the terms of this Recreation Plan, they shall be included in the following list.

French Meadows Recreation Area

French Meadows Boat Ramp Picnic Area
French Meadows Boat Ramp
French Meadows RV Dump
McGuire Picnic Area
Poppy Campground Trailhead Parking and McGuire Boat Ramp Parking Areas
Poppy Campground
French Meadows Campground
Lewis Campground
McGuire Boat Ramp
Ahart Campground
Coyote Group Campground
French Meadows Reservoir Trail

Duncan Creek Diversion Area

Duncan Creek Primitive Camping Area

Hell Hole Recreation Area

Hell Hole Campground
Big Meadows Campground
Hell Hole boat Ramp and Associated Parking Areas
Hell Hole Vista and Associated Parking Area
Hell Hole Administrative Station
Hell Hole Reservoir Trail

Long Canyon Recreation Area

Middle Meadows Campground

Rubicon River Recreation Area

Ellicott's Bridge River Access Area

Ralston Afterbay Recreation Area

Ralston Afterbay Sediment Removal Access Point Area
Ralston Picnic Area

Middle Fork American River Peaking Reach Recreation Area

Indian Bar River Access Area
Cache Rock River Access Area
Dardanelles Creek River Use Area
San Francisco Bar River Use Area

Fords Bar (Upper and Lower) River Use Area
Canyon Creek River Access Area
Cherokee Bar River Use Area
Poverty Bar River Use Area
Mammoth Bar River Access Area
Murderer's Bar River Use Area
Confluence River Access Area
Quarry Trailhead and River Access Area
China Bar River Access Area

Recreation Implementation Plan

A recreation implementation plan shall be developed by the licensee in coordination with FS, BLM, Reclamation, and CDPR within 6 months of license issuance. The implementation plan shall include a construction schedule for the recreation facilities specified below, as well as other details related to recreation resources, including, but not limited to, signing and sign placement, public information dissemination, and a schedule for design of facilities to be reconstructed. The implementation plan shall be maintained and updated in conjunction with the review of recreation developments required below.

Specific Recreation Measures

The following list of initial recreation projects identified at time of license issuance, including construction, reconstruction, and restoration, shall be completed by the licensee at the sites listed below. The licensee will be responsible for the following items requiring FS, BLM, and/or Reclamation (as applicable) approval: survey; design; contract preparation and administration; environmental analysis and documentation necessary for construction of proposed facilities, including any permits; preparation of "as-built" drawings, and funding for any necessary agency reviews. The licensee will be responsible for funding the actual capital costs of the below-listed measures. All improvements will become property of FS, BLM, and/or Reclamation (as applicable) upon completion, final inspection, and acceptance by FS, BLM, and/or Reclamation (as applicable).

Whenever a facility or feature is replaced or removed it shall be properly disposed of according to current laws and regulations.

Hell Hole Reservoir Area

Hell Hole Campground

Within 3 years of license issuance, the licensee shall in consultation with the FS redesign and reconstruct elements of the campground to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Construct a loop access road and parking area for better trailer access and boat trailer parking.

- Design, furnish and install new campground site information signage.
- Construct a native surface foot/bicycle trail from the Hell Hole Campground to the Hell Hole Vista site. This trail shall meet all current FS standards, including design for accessibility. The trail use will be monitored by the Forest Service following construction, as described in below to determine if there is a need for paving or extension of the trail to other facilities in the Hell Hole area.
- Determine if a well and tank is needed to provide adequate drinking water to the campground.
- Thin trees within 150 feet of the campground.

Within 10 years of license issuance, the licensee shall survey campers in a manner approved by the FS in order to provide the basis for a determination of whether to convert the campground to a Group Campground consisting of one 25-PAOT site or to maintain it as a family campground. Based on a determination by the Forest Service, utilizing the results of the survey and other pertinent information, the licensee shall within 13 years of license issuance redesign and reconstruct the campground in consultation with the FS to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

If it is determined that a group campground should be constructed, provide the following:

- Construct a level kitchen area with five picnic tables, two serving tables, two group pedestal grills, one group fire ring, and two large bear resistant food lockers.
- Construct five level campsites of approximately 1,200 square feet each. Furnish and install one picnic table, one fire ring, and one bear-resistant food storage container in each. Existing picnic tables, food storage containers, and fire rings that meet current FS accessibility and condition standards may be refurbished and re-installed.
- Abandon existing faucets and construct three faucet units and sumps to facilitate group campground design.
- Construct compacted aggregate base walkways to meet current FS accessibility standards between parking, campsites and kitchen area.
- Construct a level information area near parking with appropriate signage.
- Re-install bear resistant garbage containers at locations to facilitate group campground design.
- Remove all existing facilities that are not utilized in the design of the group campground.
- Rehabilitate abandoned areas as needed.
- Install barriers on southeast boundary of the campground to protect nearby sensitive resources.

If it is determined that a family campground should be maintained, provide the following:

- Remove all campsite facilities at units # 4, #5 and #6 and rehabilitate areas as needed.
- Level and remove protrusions from remaining campsites.
- Replace non-accessible tables, refurbish and reset existing accessible tables, fire rings, and bear resistant food storage lockers.

- Reconstruct compacted aggregate base walkway to meet current FS accessibility standards between parking, campsites and information area.
- Reconstruct information area near new parking area.
- Abandon existing faucet units and construct three faucet units with sumps to facilitate new campground layout.
- Re-install bear resistant garbage containers along walkway.
- Install barriers on southeast boundary of the campground to protect nearby sensitive resources.

Big Meadows Campground

Within 3 years of license issuance, the licensee shall in consultation with the FS redesign and reconstruct the campground to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Construct an interpretive and informational kiosk with benches and signs.
- Level, remove protrusions and enlarge to 1200 s.f. minimum all campsites except those previously reconstructed (4, 6, 12, 14, 29, 30, 32, 34, 38, 39, 40).
- Replace tables, grills and fire rings in all campsites except those listed above. Tables, grills, fire rings and food storage lockers which meet current FS accessibility and good condition standards may be re-furbished and reset.

Within 7 years of license issuance, the licensee shall in consultation with the FS:

- Construct a native surface foot/bicycle trail from the Big Meadows Campground to the Hell Hole Vista site. This trail shall meet all current FS standards, including design for accessibility. The trail use will be monitored by the Forest Service following construction to determine if there is a need for paving or extension of the trail to other facilities in the Hell Hole area.

Upper Hell Hole Campground

Within 2 years of licensee issuance, the licensee shall remove all of the campsites and associated amenities at the Upper Hell Hole Campground. The following describes the specific elements of this condition:

- Remove all tables, fire rings, masonry stoves, and user-created fire rings from campsites 1–13.
- Remove pit toilets 1, 2, 3, and 4.
- Remove existing signage, information boards, and frames.
- Remove masonry steps between campground levels.
- Construct drainage control measures (such as waterbars and low rolling dips) along trails and other disturbed areas.
- Restore paths, barren and/or compacted areas through means agreed to by the FS to return the site to natural conditions.

Hell Hole Boat Ramp and Associated Parking Areas

Within 2 years of licensee issuance, the licensee shall complete the following specific elements of this condition:

- Obliterate and restore a portion of the upper parking area.
- Chipseal remaining parking area and roadway.
- Paint traffic markings.
- Reconstruct steps and path and clear adjacent vegetation.
- Replace chain link fence with black plastisol fencing.

Within 10 years of licensee issuance, the licensee shall complete the following specific elements of this condition:

- Provide potable water at the Hell Hole Boat Ramp.

During the first year following license issuance that the reservoir water surface elevation is drawn down to below 4,485 feet in elevation, the licensee shall in consultation with the FS and CDFG complete the specific elements of this condition (it may not be possible to extend the boat ramp to an elevation of 4,485 due to currently unknown factors. In this case, the licensee will extend the boat ramp as far as feasible):

- Extend the concrete boat ramp up to approximately 250 feet in length.

Hell Hole Vista and Associated Parking Area

Within 5 years of licensee issuance, the licensee shall complete the following specific elements of this condition:

- Reconstruct steps, path and viewing area to current FS design standards.
- Construct level area, free of protrusions, around picnic table and replace picnic table.

Hell Hole Administrative Station

Within 5 years of licensee issuance, the licensee shall reconstruct and rehabilitate the Hell Hole Administrative Station to be used as a shared administrative facility for staff, necessary storage and work space, and as a recreation rental to serve the visiting public that are looking for a recreation opportunity other than camping in proximity to Hell Hole Reservoir. Fees collected from the recreation rental will be used to operate and administer the recreation rental. The following describes the specific elements of this condition:

- Reconstruct and rehabilitate the facility as needed;
- Replace the water lines as needed.
- Reconstruct, re-align, and resurface with asphalt concrete, the parking area and landscaping to meet the needs of administrative and recreational users.
- Construct and install informational signboards.

Hell Hole Reservoir Trail

Within 5 years of licensee issuance, the licensee shall reconstruct and rehabilitate the Hell Hole Reservoir Trail (Forest Trail 14E02) to FS design standards from the Hell Hole Reservoir Dam extending 7.5 miles to its terminus at FR 14N09A (now identified as Forest Trail 14E03). In addition, the licensee will develop, install, and maintain signage identifying the Upper Hell Hole Trail to replace the existing signage. One sign will be placed near the west end of Hell Hole Dam and the other sign will be located at the east end of Hell Hole Dam. The information contained on these signs, mounting methods and specific mounting locations will be determined in consultation with the FS.

French Meadows Recreation Area

Within 5 years of license issuance, the licensee shall replace the entire French Meadows Campground South Shore Water Supply infrastructure including drains, valves, pipe, and other items; and bring the access road/trail up to current Forest Service standards.

Within 5 years of license issuance, the licensee shall replace the entire Dolly Creek (French Meadows North Shore) Water Supply infrastructure including drains, valves, pipe, and other items and bring the access road/trail up to current Forest Service standards

Develop, install, sign and maintain a non-motorized bicycle trail between French Meadows Campground and LL Anderson Dam to provide recreation opportunities at French Meadows Reservoir

Ahart Campground

Within 5 years of license issuance, the licensee shall redesign and reconstruct the 12-unit campground to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition

- Abandon site 9, treat compacted and restore barren and/or compacted areas in a manner that is approved by the FS
- Replace all tables with accessible ones.
- Replace all fire rings with accessible ones.
- Reset food storage lockers after sites have been graded to meet accessibility standards.
- Replace two double-unit vault toilets with two single unit pre-fabricated concrete vault accessible toilets.
- Grade walkways and add compacted aggregate base between camp units and spurs/roadway for accessibility.
- Grade FR 96-91 and interior campground road and surface with compacted aggregate base.
- Reconstruct and surface, with compacted aggregate base, all spurs to meet current accessibility standards. Reset rock barriers to allow for access from spurs to units.

- Provide potable water with one hand pump. The licensee shall consult with FS to determine if an alternative measure is feasible if potable water source is not found at or near the campground.
- Level and remove protrusions and compact campsites to a minimum of 1,200 square feet.
- Construct drainage diversion around sites #1 and #8.
- Replace all wood barriers with rock barriers.
- Place additional barrier rock at sites #1 and #2. Grade Entrance Road 96-91 and all interior campground roads and surface with compacted aggregate base.
- Repair and pave Forest Road 96 from the end of the pavement near the 42 road intersection past campsite 10 in the Ahart campground.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.
- Repair/install information board and provide applicable signage.

French Meadows Campground

Within 5 years of license issuance, the licensee shall redesign and reconstruct the 75-unit campground to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Construct trash bin pads with paved approaches, and purchase or retrofit refuse containers for accessibility and bear resistance.
- Replace all fee station signage.
- Replace all non-accessible tables with accessible ones. Existing tables meeting current accessibility standards may be refurbished and re-installed.
- Replace all non-accessible fire rings with accessible ones. Existing fire rings meeting current accessibility standards may be refurbished and re-installed.
- Replace two double-unit vault toilets with 4 single-unit vault toilets and the four double-unit flush toilets in kind with pre-fabricated concrete accessible units. Relocate toilets close to roads and construct accessible turnout at each location. Construct accessible walkways from turnouts/roads to the toilets. Replace septic system.
- Install holding tanks at two campground host units' sites # 3 and 32.
- Grade walkways between camp units and spurs for accessibility. Construct wood steps where walkways are over 5 percent. Replace existing wood steps where needed.
- Slurry seal access and all interior campground roads; mark with directional information.
- Reconstruct and pave all spurs to meet current accessibility standards. Reset barriers to allow for access from spurs to units.
- Replace/and or relocate fifteen faucet units with sumps and provide level paved pads at front and side of the faucet units to provide for accessibility.
- Level, remove protrusions and compact campsites to a minimum of 1,200 square feet.
- Widen or lengthen spurs in consultation with FS. Sites other than these may be widened or lengthened, the following are considered the minimum sites to be enhanced to meet accessibility standards:
 - Convert sites 61 and 62; 33 and 2; and sites 19 and 20 to become pull through double sites sized to be a minimum of 2400 sq.ft. each.

- Enlarge living areas at sites 24, 34, 66, sized to be a minimum of 1200 sq.ft. each.
- Relocate sites 6, 11, 43, and 71 to the end of the spur.
- Move site 8 away from the road.
- Remove sites 16, 55, 65, 69, 72 and restore barren and/or compacted areas through means agreed to by the FS to return the sites to natural conditions.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.
- Replace message boards and information boards.
- Reconstruct interior campground road; replace or repair culverts and other drainage structures.
- Move the entry gate to between site 1 and the intersection for the east loop road.
- Furnish and install one accessible single unit toilet between sites 59 and 61.
- Replace bear resistant food lockers at sites 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 with larger bear resistant food lockers with a minimum of 30 cubic feet storage space.

Lewis Campground

Within 7 years of license issuance, the licensee shall redesign and reconstruct the 40-unit campground to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Construct trash bin pads with paved approaches, and purchase or retrofit refuse containers for accessibility and bear resistance.
- Replace all non-accessible tables with accessible tables. Existing tables meeting current accessibility standards may be refurbished and re-installed.
- Replace non-accessible fire rings with accessible ones. Existing fire rings meeting current accessibility standards may be refurbished and re-installed.
- For accessibility reset food storage lockers after sites have been graded.
- Replace two double-unit vault and two double-unit flush toilets in kind with pre-fabricated concrete accessible units. Relocate toilets close to road and construct an accessible turnout at each location. Construct accessible walkways from turnouts/roads to the toilets. Replace septic system.
- Grade walkways between camp units and spurs/roadway for accessibility.
- Slurry seal access and all interior campground roads.
- Reconstruct and pave all spurs to meet current accessibility standards. Reset barriers to allow for access from spurs to units.
- Replace and/or relocate eleven faucet units with sumps, and provide level paved pads at front and sides of the faucet units for accessibility.
- Level and remove protrusions and compact campsites to a minimum of 1,200 square feet.
- Widen or lengthen spurs in consultation with the Forest Service. Sites other than these may be widened or lengthened, the following are considered the minimum sites to be enhanced to meet accessibility standards:
 - Convert sites 27 and 29 to become pull through double sites sized to be a minimum of 2400 square feet.
 - Enlarge living area in sites 5 and 20 to be a minimum of 1200 square feet in size each.

- Widen site 37 to 16 feet.
- Widen sites 21, 38 and 39 to 20 feet.
- Lengthen spur for site 13 to 50 feet and move the site.
- Move the spur into sites 25, 38.
- Move sites and spurs for 19, 26, 28
- Move site 17 to the northern side.
- Remove sites 7 and 36 and restore barren and/or compacted areas through means agreed to by the FS to return the sites to natural conditions.
- Install holding tank at the campground host site # 1.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.
- Replace message and information boards.
- Perform maintenance or minor reconstruction on interior campground roads.

Poppy Campground

Within 5 years of license issuance, the licensee shall redesign and reconstruct the 12-unit campground to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Abandon units 6, 9, 11 and 12. Remove all improvements and restore barren and/or compacted areas through means agreed to by the FS to return the sites to natural conditions.
- Replace two single unit toilets with one accessible single unit toilet. Type of toilet will be determined at the time of construction and approved by the FS based on advances in technology which deals with low/no maintenance issues.
- Replace all signs and bulletin boards.
- Replace all tables with accessible ones.
- Replace all fire rings with accessible ones.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.
- Reconstruct the access trail from Poppy campground to its terminus at the lower McGuire parking area to meet FS design standards.
- Level, remove protrusions and compact the remaining campsites to a minimum of 1,200 square feet.
- Place a Poppy Campground sign at maximum water surface elevation to be seen from the reservoir.
- Place sign from Poppy Campground on the Western States Trail (16E10) directing traffic to the trailhead at Poppy/McGuire Parking and to Red Star Ridge (to the southwest).
- Install bear lockers at each site

Coyote Group Campground

Within 10 years of license issuance, the licensee shall redesign and reconstruct the four group campsites to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

Little Wolf Group Site (25 PAOT):

- Refurbish and reinstall serving tables, and reset pedestal grill, benches, and food storage lockers.
- Reconstruct the existing four RV spurs to meet current accessibility standards and paint traffic markings after reconstruction.
- Replace two faucet units and sumps.
- Level and remove protrusions and compact kitchen area and tent area to accommodate twelve 2-person tents. Replace picnic tables and group fire ring.
- Repave walkway to campsite to meet current accessibility standards.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150' of the campground. Fuel loads will be approved by FS.

Brush Wolf Group Site (25 PAOT):

- Replace picnic tables, benches, and group fire ring.
- Refurbish and reinstall serving tables; reset pedestal grill and food storage lockers.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.
- Level and remove protrusions and compact kitchen area and tent area to accommodate twelve 2-person tents.
- Grade and surface walkway to campsite with compacted aggregate base to meet current accessibility standards.
- Reconstruct the existing four RV spurs to meet current accessibility standards and paint traffic markings after reconstruction.
- Replace barrier posts with barrier rocks.

Prairie Wolf Group Site (25 PAOT):

- Remove faucet units and sumps in kitchen area.
- Replace picnic tables, benches, grill, and fire ring.
- Refurbish and re-install serving tables.
- Replace 2-unit vault toilet with 2-unit pre-cast concrete accessible toilet.
- Reconstruct the existing six RV spurs to meet current accessibility standards and paint traffic markings after reconstruction.
- Grade and surface walkway to campsite with compacted aggregate base to meet current accessibility standards.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.

Black Bear Group Site (50 PAOT):

- Replace picnic tables, non-accessible benches, and fire ring.
- Refurbish and re-install serving tables and accessible benches, reset food storage lockers.
- Level and remove protrusions and compact kitchen area and tent area to accommodate 25 2-person tents.
- Reconstruct the existing seven RV spurs to meet current accessibility standards and paint after reconstruction.

- Replace two faucet units and sumps.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.

Gates Group Campground

- Within 5 years of license issuance, the licensee shall redesign and reconstruct the 3-group campsites, to meet all current FS standards including design for accessibility.
- Construct and sign a trail (or 2) from the group camps to the Middle Fork American River that can be accessed by all Gates group visitors. Close, restore or rehabilitate user created trails that are causing resource damage (eroding) or impacting sensitive resources.

Ponderosa Group Site (75 PAOT):

- Remove concrete stoves and replace with group pedestal grills.
- Replace picnic tables, heavy wood benches, and group fire ring.
- Refurbish and re-install existing serving tables and benches.
- Grade and surface walkway to campsite with compacted aggregate base to meet current accessibility standards.
- Install all bear proof food lockers onto concrete pads for accessibility
- Reconstruct the existing twelve RV spurs to meet current accessibility standards and paint traffic markings after reconstruction.
- Remove one and replace two faucet units and sumps within kitchen area. Replace one faucet unit and sump near each toilet.
- Remove protrusions (e.g. stumps, rocks) from campsites.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.

Aspen Group Site (25 PAOT):

- Remove concrete stoves and replace with group pedestal grills.
- Replace picnic tables and group fire ring.
- Refurbish and re-install existing serving tables and benches.
- Grade and surface walkway to campsite with compacted aggregate base to meet current accessibility standards.
- Install all bear proof food lockers onto concrete pads for accessibility
- Reconstruct the existing four RV spurs to meet current accessibility standards and paint traffic markings after reconstruction.
- Replace three faucet units with sumps.
- Remove protrusions (i.e. stumps, rocks) from campsite.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.

Lodgepole Group Site (25 PAOT):

- Remove concrete stoves and replace with group pedestal grills.
- Replace picnic tables and group fire ring.
- Refurbish and re-install existing serving tables and benches.

- Install all bear proof food lockers onto concrete pads for accessibility
- Add barrier rocks.
- Grade and surface walkway to campsite with compacted aggregate base to meet current accessibility standards.
- Reconstruct the existing four RV spurs to meet current accessibility standards and paint traffic markings after reconstruction.
- Replace three faucet units with sumps.
- Remove protrusions (e.g. stumps, rocks) from campsite.
- Remove hazard trees and unacceptable fuel loads, and thin trees within 150 feet of the campground. Fuel loads will be approved by FS.

French Meadows Boat Ramp

Within 3 years of license issuance, the licensee shall upgrade the facilities to meet the current FS design standards including design for accessibility. The following describes the specific elements of this condition:

- Reconstruct the drainage ditch.
- Replace Signs – No camping, boat ramp parking.
- Replace bulletin board.
- Replace all regulatory signs.
- Install two accessible picnic tables and fire rings south of the boat ramp parking across from existing toilets.
- Construct accessible walk ways to the picnic tables and fire rings.
- Construct accessible walkways between parking, toilets, and faucet units.
- Replace and relocate faucet unit with sump to accessible location if current location can't be made accessible.
- Replace flush toilet with accessible double unit pre-cast vault concrete toilet.
- Re-establish entry road clearing limits.
- Asphalt overlay entry road.
- Replace boat ramp concrete.
- Extend boat ramp to water level for critically dry year for fire suppression (timing to be opportunistic if possible – during a CD year).
- Paint traffic markings in temporary parking area to meet current accessibility standards.
- Replace wood parking barriers with barrier rock.
- Replace metal post and cable barriers with barrier rock.
- Thin trees adjacent to all parking areas, picnic areas, buildings, roads and trails to 150 feet from the facility.

French Meadows Boat Ramp Picnic Area

Within 3 years of license issuance, the licensee shall relocate some of the improvements from this picnic area and restore barren and/or compacted areas in a manner that is approved by the FS.

French Meadows RV Dump

Within 3 years of license issuance, the licensee shall upgrade the facilities to meet the current FS design standards including design for accessibility. The following describes the specific elements of this condition:

- Remove unused concrete pad.
- Stripe parking lot.
- Replace faucet unit and sump. Reconstruct route to faucet unit to meet current FS accessibility standards.

McGuire Boat Ramp

Within 5 years of license issuance, the licensee shall upgrade the facilities to meet the current FS design standards including design for accessibility. The following describes the specific elements of this condition:

- Replace signage.
- Repair and reseal boat ramp.
- Repair concrete turn around at top of the boat ramp.

McGuire Boat Ramp and Associated Parking Areas (Including Poppy Campground Trailhead Parking Area)

Within 2 years of license issuance, the licensee shall upgrade the facilities to meet the current FS design standards including design for accessibility. The following describes the specific elements of this condition:

- Remove Poppy Campground Trailhead access road and parking area and restore barren and/or compacted areas through means agreed to by the FS to return the sites to natural conditions.
- Remove post and cable barriers.
- Install barrier rock along road and at the entrance to Poppy Campground Trailhead parking area to prohibit motorized vehicle entry.
- Prepare the surface of the access road and parking area to allow for re-vegetation.
- Remove the flush toilet building and faucet and drains and the fire hydrant in or near the Poppy Campground Trailhead Parking Area.
- Remove the existing vault toilet building.
- Develop the Southeast McGuire Parking to include parking for Poppy Campground Trailhead:
 - Pave the closest six parking spaces to the North Shore Road, paint traffic markings and sign as reserved for Poppy Campground Trailhead Parking Only.
 - In a centralized place between the Poppy Campground Parking, Poppy Trailhead sign, and near the North Shore road:
 - Construct trash bin pads with paved approaches, and purchase or retrofit one double refuse container and 1 recycling container for accessibility and bear resistance.

- Furnish and install fee station and information boards.
- Furnish and install pre-cast double unit toilet
- Construct one accessible faucet unit with sump near toilet and trash container.
- Provide accessible walkways between facilities (toilet, trash, faucet units, parking, and information board.
- Extend the Poppy Trail to the new Trailhead location
- Install signage between the trailhead and Poppy Campground.
- Install barrier rock around the perimeter of the entire Southeast McGuire Parking lot.
- Sign the remainder of the Southeast McGuire Parking lot for boat ramp parking.
- Provide an accessible walkway between the boat ramp parking and the boat ramp/shoreline with appropriate signage.
- Referencing Map REC 1-17 “McGuire Boat Ramp, Picnic Area and Beach and Associated Parking Areas” near the Recreation Road Reference Point F: Remove the southern loop of the Parking NE Lot parking lot access road . Widen “E” to accommodate two way traffic. Restore barren and/or compacted areas through means agreed to by the FS to return the sites to natural conditions.
- Monitor boat ramp use for safety issues and serviceability in order to determine when the boat ramp needs to be replaced.

McGuire Picnic Area

Within 4 years of license issuance, the licensee shall redesign and convert the picnic area into one 25 PAOT and one 50 PAOT group campsite which meets all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Remove all existing facilities associated with the picnic and beach area.
- Asphalt overlay entry road.
- Asphalt overlay parking lot.
- Paint traffic markings and sign for accessibility.
- Delineate the parking areas between the group campsites with barrier rock.
- Provide pathways to facilities to meet accessibility standards

For Group Site #1 (50 PAOT):

- Construct trash bin pads with paved approaches, and purchase or retrofit 4 double refuse containers and 2 recycling containers for accessibility and bear resistance.
- Furnish and install information signs.
- Furnish and install the following furnishings.
 - Four serving tables.
 - Eight picnic tables.
 - Four group grills.
 - One group fire ring.
 - Twelve benches.
 - Four group bear-resistant food lockers.
 - Three faucet units with sumps.
- Furnish and install two flush pre-cast double unit concrete toilets.

- Level tent area to accommodate 25 two-person tents

For Group Site #2 (25 PAOT):

- Construct trash bin pads with paved approaches, and purchase or retrofit two double refuse containers and two recycling containers for accessibility and bear resistance.
- Furnish and install information signs.
- Furnish and install the following furnishings.
 - Two serving tables.
 - Two group grills.
 - One group fire ring.
 - Six benches.
 - Two group bear-resistant food lockers.
 - Two faucet units with sumps.
- Furnish and install one flush pre-cast double unit concrete toilets.
- Level tent area to accommodate twelve two-person tents.

Duncan Creek Diversion Area

Within 3 years of license issuance, the licensee shall make the following improvements that would continue to maintain the rustic semi primitive setting with opportunity to camp overnight. The following describes the specific elements of this condition:

- Install a single unit pre-cast vault toilet.
- Install one 2-bin bear-resistant garbage container
- Install barrier rocks around the perimeter of the dispersed concentrated use area to delineate the area and prohibit motorized access outside of the use area (to be delineated on the ground by FS and the licensee).

Construct and install an information board.]Remove hazards including hazard trees. Reduce fuel build ups within 150 feet of the delineated area.

Long Canyon Recreation Area, Middle Meadows Group Campground

Within 10 years of licensee issuance, or at such time when the occupancy rate at the two existing Middle Meadows Group Campgrounds exceed the triggers identified below, the licensee shall design and construct one additional 50 PAOT group camp site to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Install one pre-cast double unit concrete toilet.
- Construct access road, parking area and associated barrier rocks with sufficient capacity for 50 PAOT site.
- Furnish and install the following furnishings:
 - Four serving tables.
 - Four group grills.
 - One group fire ring

- Twelve benches
- Four group bear-resistant food lockers
- Three faucet units with sumps
- Level tent area to accommodate 25 two-person tents
- Construct trash bin pads with paved approaches, and purchase or retrofit refuse containers for accessibility and bear resistance.
- Construct accessible walkways from the camp unit to the toilet and parking area.
- Install bulletin boards and other necessary signage throughout the camp unit.

In addition, within 10 years of license issuance, the licensee shall install a photovoltaic solar power source and a backup generator providing power for potable water.

Rubicon River Recreation Area, Ellicott's Bridge River Access Area

Within 5 years of licensee issuance, the licensee shall design and construct a 6-vehicle river access parking area along Forest Road 14N08 at the Ellicott's Bridge crossing of the Rubicon River. This river access parking area shall be designed and constructed to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Install one pre-cast concrete toilet and construct accessible walkway from parking area to toilet.
- Harden the parking area surface and install barrier rocks to restrict vehicle access beyond the parking area.
- Install an informational bulletin board.

Middle Fork Interbay Area

- Provide and maintain sanitation facilities for recreationists at Interbay.

Within 1 year of license issuance and in consultation with the Forest Service, determine non-motorized public access routes upstream of the powerhouse that would provide security for PCWA's operation and maintenance of the project.

Ralston Afterbay Sediment Removal Access Point Area

Within 2 years of license issuance, the licensee shall upgrade facilities to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Delineate the boat ramp and parking area with barrier rock.
- Grade the ramp to remove large cobbles and rocks.
- Install signage and barriers to limit parking.
- Install signage directing visitors to the Ralston Picnic Area for facilities and parking.

Ralston Picnic Area

Within 2 years of license issuance, the licensee shall upgrade facilities to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Remove all improvements at site #1 and #5 and restore barren and/or compacted areas through means agreed to by the FS to return the sites to natural conditions.
- Repave the parking area and paint traffic markings.
- Install day use only and no overnight camping signs
- Install signs directing recreationists to the afterbay access point.
- Provide accessible walkways between picnic sites, toilet, information board, and garbage facilities.
- Level, remove protrusions and increase living area size to 400 s.f. minimum at remaining three picnic sites.
- Replace tables and pedestal grills at three picnic sites.
- Provide, maintain, and sign a non-motorized access trail upstream of the Ralston Picnic Area as far as the MFAR temperature gage and if feasible continue the trail for another 0.5 to 1 mile upstream.
- Install an information board.

Middle Fork American River Peaking Reach Recreation Area

The following recreation sites in the peaking reach are on NFS lands:

- Indian Bar
- Cache Rock

The following recreation sites on the peaking reach are on BLM lands:

- Dardanelles Creek
- San Francisco Bar
- Fords Bar (both Upper and Lower)
- Canyon Creek
- Ruck-a-Chucky/Greenwood

The following recreation sites on the peaking reach are on Reclamation lands:

- Cherokee Bar
- Poverty Bar
- Mammoth Bar
- Murderer's Bar
- The Confluence
- Quarry Trailhead and River Access
- China Bar (includes Birdsall and Oregon Bar river access points)

All recreation improvements in the peaking reach must be consistent with the Wild and Scenic River classification for the Middle Fork American River.

Indian Bar River Access Area

Within 3 years of license issuance, the licensee shall upgrade the facilities to meet the current FS design standards including design for accessibility. The following describes the specific elements of this condition:

- Install a raft slide ramp.
- Install additional accessible pre-cast vault toilets or modify the existing toilets to accommodate peak use.
- Install ventilation systems to the existing toilet facilities (build in a monitoring system to determine the need for this after some measures are implemented in 2011).
- Develop and maintain a trail from the parking area and restrooms to the beach area. Provide signage and an information board.
- In collaboration with the FS and their cooperators, determine if seasonal sanitation facilities are necessary immediately adjacent to the beach area.
- Provide and install signage, including the appropriate regulation so that citation is possible, that notifies the public that the area is closed to mineral withdrawal.
- Provide signage that permits overnight camping at the designated parking area from October through March.
- Provide signage that prohibits overnight camping at the designated parking area from April through September.
- Depending upon the future configuration of the sediment pile (the designated parking area is reduced 50 percent or more from the 2010 footprint) provide 2 accessible picnic tables with shade ramadas on the area designated the overflow parking area on Map REC 1-23. Install a changing pavilion (minimum of 2-sided, gender assigned)
- Install or replace information boards

Cache Rock River Access Area

Within 10 years of licensee issuance, or at such time after 10 years when the Forest Service acquires public motor vehicle access to the Cache Rock River Access Area, the licensee shall design and construct a 10-vehicle river access parking area along Forest Road 14N35A at Cache Rock along the Rubicon River. This river access parking area shall be designed and constructed to meet all current FS standards including design for accessibility. The following describes the specific elements of this condition:

- Install one single unit pre-cast concrete toilet and construct accessible walkway from parking area to toilet.
- Reconstruct the Four-Wheel Drive access road to a level which addresses drainage needs but need not provide for passenger vehicle access. Grade the parking area and install barrier rocks to restrict vehicle access beyond the parking area.
- Install an informational bulletin board.
- Construct an access trail from the parking area to the Middle Fork American River.

Dardanelles Creek

Within 5 years of license issuance, the licensee shall upgrade the facilities to meet the current BLM design standards including design for accessibility. The following describes the specific elements of this condition:

- A composting toilet including concrete foundation, building and composting unit.
- An interpretive panel regarding the historic resources to enhance the visitor experience.

San Francisco Bar

Within 5 years of license issuance, the licensee shall upgrade the facilities to meet the current BLM design standards including design for accessibility. The following describes the specific elements of this condition:

- A composting toilet including concrete foundation, building and composting unit.
- An interpretive sign/kiosk or panel.

Canyon Creek

Within 5 years of license issuance, the licensee shall upgrade the facilities to meet the current BLM design standards including design for accessibility. The following describes the specific elements of this condition:

- A formal trail constructed from the river landing to the composting toilet location.
- An interpretive panel/kiosk at this site to enhance the visitor experience.

Ruck-a-Chucky/Greenwood

Within 5 years of license issuance, the licensee shall upgrade the facilities to meet the current BLM design standards including design for accessibility. The following describes the specific elements of this condition:

- An information/interpretive sign kiosk.
- Provide additional parking capacity, approximately 20-30 vehicle spaces (including at the Francisco Flat site). This may require some access road improvement to parking area to be improved.
- Annual grading and repair of road.
- Improve the Ruck-a-Chucky Rapid portage trail and access points to the trail.

Cherokee Bar

Within 5 years of license issuance, the licensee shall upgrade the facilities to meet the current Reclamation design standards including design for accessibility. The following describes the specific elements of this condition:

- Within 10 years of license issuance, the licensee shall install a pre-cast concrete vault toilet at this site.
- An information/interpretive sign kiosk.

Mammoth Bar

Within 5 years of license issuance, the licensee shall make improvements to the river access (boating take-out/put-in) and parking. These improvements specifically include:

- Re-grading the parking area and expanding the river access and parking area.
- An information/interpretive sign kiosk.

Poverty Bar

Monitor the use of this site and based on use levels, install a composting toilet at this location to address potential human waste issues.

Confluence

Within 5 years of license issuance the licensee will make the following improvements at this site:

- Install a double pre-cast concrete vault toilet;
- Develop improved parking (paved and striped) where possible;
- an information/interpretive sign kiosk;
- Construct a concrete river access trail for boat launching,

This new river access trail would be built to provide access below the Highway 49 rapid which is problematic for inexperienced boaters. The trail would be built on the outside bend of the turn just below the Confluence. The trail would be built to accessible standards across some challenging terrain. The trail would be constructed with concrete to withstand winter floods.

Murderer's Bar

Monitor use of the Murderer's Bar run and develop a portage trail around the Class V-VI rapid as use of the run warrants.

Quarry Trailhead and River Access

Within 5 years of license issuance the licensee will install a pre-cast concrete vault toilet at this site.

China Bar

Within 10 years of license issuance, develop and implement a plan for additional river access facilities for the China Bar area. These new facilities may include additional vehicle access and

parking in the China Bar area. The likely location for these additional facilities is on the south side of the river at the large flat across from the Birdsall access and the American River Pump Station. Access to the river would be via existing roads from Cool. The planning of these facilities would be done in collaboration with and subject to the approval of Reclamation, the federal land owner, and the managing agency, which is currently CDPR.

The specific future facilities for this site may include:

- Improvement of the access road from Salt Creek down to the flat above the North Fork of the American River. This may include installation or replacement of culverts, grading and installation of crushed rock.
- Installation of poles gates across roads and trails which intersect the primary access road to the river.
- Fencing along the access road in several locations (.5 to 1 mile of fencing) to deter off road vehicle access.
- Grading of the large flat to accommodate 100-200 vehicles.
- Installation of large rock barriers (and gates as needed) around the parking area to delineate and contain vehicles.
- Development of a river access and boating equipment pick up spot at river level opposite the Birdsall access. This would involve grading the road from the parking area to the river and delineating a turn around and temporary parking area.
- Installation of a double pre-cast concrete vault toilet.
- Installation of shade ramadas and picnic tables adjacent to the parking area.
- Information signs, self service fee station and animal proof trash containers.

Within 3 years of license issuance, the licensee will conduct an assessment the Pump Station Bypass Channel to determine if it can be modified to better serve recreational boaters, including both casual downriver boaters and whitewater play boaters, at the range of flows the occurs during the summer season, from 200-1000 cfs. If a feasible plan can be developed, the modification would be implemented within 5 years of license issuance.

One specific heavy maintenance item is the relationship of the sediment management activities at Ralston Afterbay and the river access parking area at Indian Bar:

- Ensure that sediment management activities at Indian Bar are designed and constructed to ensure adequate public parking is maintained at the Indian Bar River Access Area.

Heavy Maintenance

The licensee will be responsible for the cost of the necessary maintenance, rehabilitation, and reconstruction, including the costs of design, administration and agency reviews, as determined through the Review of Recreation Developments (as described above) for the Project recreation facilities. Heavy maintenance and rehabilitation are defined as work that is necessary to keep existing facilities in serviceable condition to meet FS, BLM, or Reclamation (as applicable) standards and includes components of recreation facilities such as water systems, traffic control barriers, roads, spurs, and associated drainage structures, grills and fire rings, picnic tables,

toilets, and signboards. The licensee shall use each respective agency's standards for the frequency of heavy maintenance as a guideline, but not a prescription, for licensee's performance of its heavy maintenance responsibilities. As determined through the Review of Recreation Developments described above, heavy maintenance projects may be deferred that would otherwise be timely under each respective agency's frequency standards, if FS, BLM, and/or Reclamation (as applicable) determines that actual conditions indicate that the project is not yet necessary.

More specifically, heavy maintenance may include, but is not limited to, the following items over the term of the license:

- Repairing, re-surfacing and re-striping paved areas.
- Re-grading gravel parking lots and installing additional crushed rock.
- Replacing culverts, drainage repairs and other heavy maintenance along access roads.
- Grading, repaving, patching, dust control and repairing access roads and road shoulders as needed.
- Re-roofing and painting buildings.
- Replacing picnic tables and other accessory structures.
- Replacing the composting unit on the composting toilets.
- Replacing vault toilets every 20-25 years.
- Replacing information kiosks, signs, gates and trash containers.
- Painting pre-cast concrete vault toilets and other buildings every 3-5 years.

Recreation Operation, Maintenance, and Administration

Forest Service

Beginning the first full year after license issuance, the licensee shall annually pay to FS \$535,000 (year 2010 cost basis) The cost shall be escalated annually based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP) in accordance with a collection agreement with the FS, and may be reduced by the amount of fees collected by the Forest Service that are available for operation and maintenance of the facilities listed above. These funds are for FS to provide for operation, maintenance, and administration of those developed recreation sites, facilities, or uses that are adjacent to or in the vicinity of Project reservoirs and facilities listed above (either developed as part of the original/amended license or affected by operations). This will include, but not be limited to, managing use within and immediately adjacent to the Project boundary, and performing both regular and annual maintenance. In addition, this will fund the special use permit administration required for facilities developed as part of the original/amended license and operated by a concessionaire. Work to be completed within these areas is to consist of conducting patrols, picking up litter, providing public information, enforcing rules and regulations, rehabilitating impacted areas, addressing sanitation, maintaining day use sites (such as concentrated use areas), maintaining trails, information signs, and regulatory signs, responding to fires and other emergencies, assisting in search and rescue, addressing resource impacts, and area condition monitoring.

Bureau of Land Management

Beginning the first full year after license issuance, the licensee shall annually pay to BLM \$254,537.72 (year 2010 cost basis) The cost shall be escalated annually based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP) in accordance with a collection agreement with the BLM. These funds are for BLM to provide for operation, maintenance, and administration of those developed recreation sites, facilities, or uses that are adjacent to or in the affected footprint downstream of Project reservoirs and facilities listed in ADD (either developed as part of the original/amended license or affected by operations). This will include, but not be limited to, managing use within and immediately adjacent to the Project boundary and within the affected footprint downstream of the project, and performing both regular and annual maintenance. In addition, this will fund the special use permit administration required for facilities developed as part of the original/amended license and operated by a concessionaire. Work to be completed within these areas is to consist of conducting patrols, picking up litter, providing public information, enforcing rules and regulations, rehabilitating impacted areas, addressing sanitation, maintaining day use sites (such as concentrated use areas), maintaining trails, information signs, and regulatory signs, responding to fires and other emergencies, assisting in search and rescue, addressing resource impacts, and area condition monitoring.

Bureau of Reclamation

Beginning the first full year after license issuance, the licensee shall annually pay to Reclamation \$181,906.72 (year 2010 cost basis) The cost shall be escalated annually based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP) in accordance with a collection agreement with the Reclamation. These funds are for Reclamation to provide for operation, maintenance, and administration of those developed recreation sites, facilities, or uses that are adjacent to or in the vicinity of Project reservoirs and facilities listed in ADD (either developed as part of the original/amended license or affected by operations). This will include, but not be limited to, managing use within and immediately adjacent to the Project boundary, and performing both regular and annual maintenance. In addition, this will fund the special use permit administration required for facilities developed as part of the original/amended license and operated by a concessionaire. Work to be completed within these areas is to consist of conducting patrols, picking up litter, providing public information, enforcing rules and regulations, rehabilitating impacted areas, addressing sanitation, maintaining day use sites (such as concentrated use areas), maintaining trails, information signs, and regulatory signs, responding to fires and other emergencies, assisting in search and rescue, addressing resource impacts, and area condition monitoring.

Public Information Services

Dissemination of Real-Time Flow Information

The licensee will provide real-time flow information as follows:

- Rubicon River Gage above Ralston Powerhouse (United States Geological Survey [USGS] Gage No. 11433200);
- South Fork Long Canyon Creek Gage below Diversion Dam (SFLCC);

- North Fork Long Canyon Creek Gage below Diversion Dam (NFLCC);
- Duncan Creek Gage and Weir below Diversion Dam (USGS Gage and Weir No. 11427750);
- Middle Fork American River Gage and Weir below French Meadows Dam (USGS Gage and Weir No. 11427500);
- Middle Fork American River Gage above Middle Fork Powerhouse (USGS Gage No. 11427760);
- Middle Fork American River Gage below Interbay Dam (MFARIB);
- Middle Fork American River Gage near Foresthill (USGS Gage No. 11433300) also known as Middle Fork American River Gage below Oxbow Powerhouse and referred to by the California Data Exchange Center (CDEC) as OXB; and
- North Fork American River Gage above American River Pump Station (NFARPS).

The licensee will provide real-time (15-minute) flow data for each of these sites on licensee’s website. The licensee will also make the data available to CDEC but cannot guarantee that CDEC will post the data. Real-time flow data for one of the above gages, USGS Gage No. 1143300, is already collected and provided to the public via the internet by CDEC. At a minimum, the flow data on the licensee’s webpage will show the most recent 14 days of flow information. It is important to note that this data will not have been checked for accuracy by the licensee or the USGS before posting. Therefore, the data may be subject to change. All streamflow values may be rounded to the nearest cubic feet per second (cfs), and any plots or tables showing these data may be labeled with the following or similar language: “These provisional stream flow data have not been reviewed or edited for accuracy and may be subject to significant change.”

In addition to providing flow information, the licensee will provide the following information on the website:

- Notification that one (or more) of the Project reservoirs is spilling or that a spill event is eminent (if projectable);
- Notification of a special release, for example pulse flows released for channel and riparian maintenance purposes as far in advance as feasible;
- A matrix showing when pulse flows released from Oxbow Powerhouse will arrive downstream at the following specific locations in the peaking reach: Tunnel Chute, Cache Rock, Fords Bar, Ruck-a-Chucky Recreation Area, Mammoth Bar, Poverty Bar, the Confluence, Birdsall Access, and Oregon Bar Access Point. The matrix will be developed using travel time information developed as part of the MFP relicensing studies. An example travel time matrix is shown on REC Plan Table 6. This example matrix was developed using a travel time of 2.5 miles per hour, a base flow of 200 cfs, and a peak flow of 1,000 cfs. The new matrix will be adjusted based on the flow regime specified in PCWA’s new license.
- Links to pertinent websites, for example, the CDEC, USGS, and USDA-FS websites.

Dissemination of Reservoir Water Surface elevation (WSE) Information

The license will provide weekly (at a minimum)WSE information at French Meadows and Hell Hole reservoirs to the public on a licensee website. The information provided on the internet will be based on data collected at the following two gages:

- French Meadows Reservoir Gage (USGS Gage No. 11427400); and
- Hell Hole Reservoir Gage (USGS Gage No. 11428700).

Currently, WSE information is collected several times weekly by licensee's staff. Weekly WSE information will be provided to the public by the licensee via the internet. The WSE data on the licensee's webpage will show the most recent six months of weekly information. In addition to providing WSE information, the licensee will provide the following information on the website:

- Example photographs or other appropriate technology showing the reservoir conditions at various WSEs; and
- Information about whether the boat ramps are functional based on the current WSE. This information will be provided until the boat ramps are extended, at which point PCWA will discontinue posting this information because it will no longer be relevant.
- Links to pertinent websites, for example, the FS websites.

Recreation Opportunity Maps and Brochures

The licensee will develop informational maps and brochures regarding recreation opportunities available in the vicinity of the Project in consultation with FS, BLM, and Reclamation. These materials will include: (1) maps showing the locations of the developed Project recreation facilities and the access roads and trails in the vicinity of the Project; and (2) information brochures as specified in the following subsections.

Maps

The licensee has developed a color map showing the locations of developed Project recreation facilities and the access roads and trails in the vicinity of the Project. In addition, the licensee has developed maps that graphically depict the layout of each of the developed Project recreation facilities on an orthophotographic background. Following approval by the appropriate land management agencies, the licensee will provide electronic copies of these maps to the following organizations for posting on web:

- FS (Eldorado National Forest and Tahoe National Forest).
- BLM .
- Reclamation.
- Auburn Chamber of Commerce.
- Foresthill Divide Chamber of Commerce.
- Georgetown Divide Chamber of Commerce.
- CDPR.

In addition, these maps will be posted on a licensee website, under a link titled "Recreation Opportunities in the Vicinity of the MFP."

Trail Map

The licensee will develop a map showing the locations of the primary trails in the vicinity of the Project. This map will be developed in consultation with the FS, BLM, and Reclamation. Upon approval by the FS, BLM, and Reclamation, the map will be laminated and posted on existing information kiosks located at the developed Project recreation facilities. In addition, the licensee will provide electronic copies of these maps to the FS, BLM and Reclamation for posting on their respective websites.

Brochure

The licensee will create a color brochure highlighting the recreation resources in the vicinity of the Project, including travel routes and information about the Project facilities and resource protection concerns. The brochure will be developed in consultation FS, BLM, Reclamation, Auburn Chamber of Commerce, the Foresthill Divide Chamber of Commerce, and the Georgetown Divide Chamber of Commerce and will be approved by FS, BLM, and Reclamation. The licensee will provide electronic copies of the brochure to the FS, BLM, Reclamation, and to each of the Chambers listed above for posting on their information web sites. In addition, each year, the licensee will provide paper copies of the brochure to the FS, BLM, Reclamation, and to each of the Chambers for distribution to the public through their local offices, in the following quantities.

- ENF Supervisor's Office – 100 copies.
- ENF Georgetown Ranger District Office –150 copies.
- TNF American River Ranger District Office – 250 copies.
- Auburn Chamber of Commerce – 250 copies.
- Foresthill Divide Chamber of Commerce – 250 copies.
- Georgetown Divide Chamber of Commerce – 100 copies.
- California Welcome Center in Auburn – 100 copies.
- Reclamation Central CA Area Office – 250 copies
- CPDR Auburn Sector Office – 500 copies

The licensee will provide the paper copies of the brochures to each entity by May 1 of each year so that the brochures are available to the public by the beginning of the peak recreation season. Before printing, the licensee will consult with the FS, BLM, Reclamation and the Chambers to determine whether the quantity of brochures being supplied is appropriate based on the previous year's distribution. The number of copies produced and supplied to the FS, BLM, Reclamation and the Chambers may be adjusted based on this consultation. Project recreation brochures will be provided to other entities upon request.

Fish Stocking

The licensee will fund the stocking of fish in Hell Hole and French Meadows reservoirs on an annual basis during the term of the new license. The fish stocking program will be supported at a rate equivalent to 100 percent of CDFG's annual management target in Hell Hole and French Meadows or 100 percent of the historical average stocking into these reservoirs (2001-2009), whichever is less. Fish species and size class stocking targets shall be determined by CDFG.

The average annual number of fish stocked in Hell Hole and French Meadows reservoirs from 2001 through 2009 is shown on REC Plan Table 6 and REC Plan Table 7, respectively and summarized in the following:

Hell Hole Reservoir

- Brown Trout – During the 2001–2009 period, an average of approximately 5,500 catchable brown trout were stocked.
- Kokanee salmon – During the 2001–2009 period, an average of approximately 24,600 fingerling Kokanee salmon were stocked.

French Meadows Reservoir

- Rainbow Trout - During the 2001 - 2009 period, approximately 10,500 catchable rainbow trout were stocked.

At the licensee’s discretion, the licensee will either: (1) acquire the fish directly from private fish hatcheries approved by CDFG or (2) reimburse CDFG for the cost of the stocking program in Hell Hole and French Meadows reservoir based on the criteria described above. The licensee will consult with the CDFG annually to obtain fish stocking targets, fish species, discuss fish acquisition, and verify the completion of the previous year’s stocking commitment.

Future Project Recreation Facility Enhancements

There may be a need to reduce, expand, or convert an existing Project recreation facility or to construct new facilities, based on changing recreation use levels or needs over the term of the license. These types of changes will be determined in consultation with the FS, BLM and Reclamation, based on the use data collected annually by the respective agency. The need for future Project recreation facility enhancements will be determined based on “triggers” and will not be implemented until the appropriate environmental review is completed, as discussed in the following.

Triggers for Enhancement Actions

Use data collected and facility capacity information will be used to determine whether any of the existing facilities are at or approaching capacity and whether facility enhancements are necessary in the future. In addition, the following types of information will be considered:

- Current demographic data.
- Current, locally pertinent, published trends information regarding recreation use patterns and needs.
- Data collected through site-specific visitor surveys, when necessary.

If the use monitoring data indicates that the seasonal occupancy rate of any of the developed Project recreation facilities listed above has reached 75 percent capacity on weekends from Memorial Day through Labor Day (inclusive), the licensee will collect additional use data at that

facility the following year. If the use data indicates that capacity of that facility has reached 75% during the second year, PCWA will collect a third year of data at that facility. This effort may be combined with site-specific visitor surveys if additional information is needed regarding visitor needs and the types of improvements that may be necessary.

When the seasonal occupancy rate on weekends from Memorial Day weekend through Labor Day weekend (inclusive) reaches 75 percent for three consecutive years, or if the seasonal occupancy rate in the third year does not exceed 75 percent but is above 50 percent and there is a clear reason for the lower occupancy rate, the licensee will enter into discussions with the appropriate land management agency about the appropriate improvements to expand facility capacity. Capacity could be increased by expanding the capacity of the facility in question, by converting a nearby under-utilized facility, or by constructing a new facility. Agreed upon actions will be documented in an amendment to this Recreation Plan, and after approval by the appropriate agency (FS, BLM, Reclamation), will be filed with the FERC for approval. The licensee will be responsible for the design and construction of any facility enhancements that are called for in meeting the terms of this Section.

Visual Resource Management Plan

The DLA does not include a Visual Resource Management Plan (VRMP). The resource agencies have developed the following VRMP in an attempt to provide information to assist in reaching agreement on a VRMP. The proposed VRMP follows.

The purpose of the VRMP is to address the existing Project facilities and features, and any new construction or maintenance of facilities that have the potential to affect the visual resources of National Forest System Lands. The Plan shall provide a proposed mitigation and implementation schedule to bring the Project facilities affecting visual resources on National Forest System lands in to compliance with the Forest's visual resource standards and guidelines. The Plan is also to include the following items:

Eldorado National Forest

- Within 3 years after license issuance, paint the Hell Hole - Middle Fork Tunnel Gatehouse at Hell Hole Reservoir a dark gray (color to be approved by the Forest Service).
- Within 3 years after license issuance, paint the caretakers cottage and shop at Hell Hole reservoir a dark color (to be approved by FS).
- Within 3 years after license issuance, paint all of the yellow components associated with the facility at South Fork Long Canyon Creek Diversion Dam matte black.
- Within 3 years after license issuance, paint all of the white components associated with the Ralston Powerhouse the same dark green color that is currently on the powerhouse gates.
- Within 3 years after license issuance, remove or store out of sight, all un-consolidated items from the Middle Fork-Ralston Tunnel surge shaft, tank and storage building enclosure located adjacent to 14N25. Replace galvanized fencing with black plastisol fencing. Paint metal components (other than tank) matte black. Paint storage building doors a dark brown color that complements the brick color.

- Within 3 years after license issuance, re-locate or paint the passive microwave reflector above Ralston Afterbay which is visible from 14N25 in a manner to blend with the surrounding vegetation.
- Within 3 years after license issuance, paint the Ralston Powerhouse Butterfly Valve House a dark color which blends with the surrounding vegetation (color to be approved by FS).
- When next painted, paint the French Meadows Powerhouse and penstock a color approved by FS. When the French Meadows Powerhouse betterment project occurs, paint both the old and new penstocks identical colors and the two powerhouses identical colors, all to be approved by the Forest Service.
- During the course of normal maintenance, replace the roof at the Hell Hole dormitory with one that is dark in color (to be approved by FS).
- If over the course of the license, materials other than soil are stored at the Ralston Ridge Sediment Disposal Area, they will be stored in a neat, consolidated manner and placed as out of site as possible when viewed from 14N25.

Tahoe National Forest

- Within 1 year after license issuance, develop a Landscape Rehabilitation Plan for the French Meadows Dam Staging Area. The plan would address restoration of the spoil-pile character of this ancillary facility and help to reduce undesirable visual impacts. The Rehabilitation Plan will address re-grading portions of the site to natural contours and introducing vegetation to reduce scale and contrast of the staging area when viewed from the Mosquito Ridge Road. Implement the plan within 5 years of license issuance.

The current spillway widening project addresses rehabilitation at project completion (est. 2012) but further landscape rehabilitation will be needed to move this area to a more visually desirable condition.

- Within 5 years after license issuance, paint the French Meadows-Hell Hole Tunnel Gatehouse which is visible from French Meadows Reservoir in a manner to blend with the surrounding vegetation.
- When next painted, paint the French Meadows Dam Generator Building, Ralston Dam Generator building and Storage Building at Middle Fork-Ralston Tunnel a color that blends with their respective surrounding landscapes. Color to be approved by the Forest Service.

Visual Resource Protection Plans

During the term of the new FERC license, changes to Project area conditions may necessitate additional actions to protect, enhance, or mitigate existing visual resources. As such, the licensee will file a visual resource protection plan with FERC for any potential licensee-induced change (e.g., new facility construction (including those identified as betterments under the new license), significant renovations, etc.) to the existing Project area visual environment that is planned during the term of the new license. In general, a visual resource protection plan will be required for any new, relocated, or significantly modified Project facility or other disturbance that has been determined by the licensee and/or the FS to affect the overall visual quality of the Project area.

The plan shall address clearings, spoil piles, and Project facilities like diversion structures, penstocks, pipes, ditches, powerhouses, other buildings, transmission lines, corridors, and access roads. The plan shall address facility configurations, alignments, building materials, colors, landscaping, and screening. The plan shall provide a proposed mitigation and implementation schedule to bring the Project facilities affecting visual resources on National Forest System lands into compliance with visual resource standards and guidelines in the Eldorado National Forest Land and Resource Management Plan and the Tahoe National Forest Land and Resource Management Plan. The licensee shall implement the plan upon approval by FS.

Mitigation measures identified for either the visual resource plan for new construction or the measures identified for existing facilities shall include, but are not limited to: (1) surface treatments with FS-approved colors and natural appearing materials that will be in harmony with the surrounding landscape, (2) use of non-specular conductors for the transmission lines, (3) use of native plant species to screen facilities from view, (4) reshaping and re-vegetating disturbed areas to blend with surrounding visual characteristics, and, (5) locating transmission facilities to minimize visual impacts.

At a minimum, the visual resource protection plan will include:

- A description of planned modifications to the existing visual environment;
- Appropriate PM&E measures that will be implemented related to the modifications;
- A schedule for implementation of appropriate measures; and
- A record of consultation with the FS regarding the modification and appropriate visual measures.

For Project area modifications that may result in changes to the visual environment, the process by which a visual resource protection plan would be developed is as follows (this process assumes a plan/design for any potential modification has already been developed):

- Notify the FS of planned facility modifications and identify any potential impacts to the existing visual environment of the Project area;
- If determined by the FS that a visual resource protection plan is required, develop a draft visual resource protection plan that identifies the actions that will be taken to protect, enhance, and/or mitigate the visual resources impacted by the planned modification;
- Provide a draft visual resource protection plan to the FS for review (a minimum of 30 days will be provided to the FS for their review);
- Revise and finalize the visual resource protection plan, based on FS review comments;
- Submit final visual resource protection plan to the FS for approval
- File a final visual resource protection plan with FERC. A copy of the final plan will also be provided to the FS after being finalized.

For Project facility modifications that the FS has deemed not substantial enough to warrant the development of a visual resource protection plan, the following process shall be followed:

- Provide a narrative, drawings and/or photographs of the planned modifications to the FS.

Acquire documented approval of modifications by the FS.

Licensee Roles and Responsibilities

- Implement the VRMP following FERC approval.
- Coordinate VRMP implementation actions with other Project resource management plans or actions.
- Review potential visual resource changes over time.
- Ensure that PCWA facility operations and maintenance staff are aware of the requirements of the VRMP so that they can help implement applicable actions.
- Perform periodic visual inspections on Project facilities every 2 - 5 years and touch-up, re-paint facilities or perform routine maintenance as necessary to maintain the facilities described above in good condition.

FS Roles and Responsibilities

- Provide review and feedback on the Draft VRMP and any future updates, if needed, prior to submittal to FERC for approval.
- Provide review and feedback on VRMP implementation actions including approval of visual resource protection plans.
- Participate in periodic VRMP review meetings, if needed.

Vegetation and Integrated Pest Management Plans

The resource agencies have participated in efforts to develop an appropriate Vegetation and Integrated Pest Management Plan; however, we continue to have similar concerns to those we have expressed throughout the time the plan has been being developed.

- It is very difficult to develop a long-term plan that is specific enough to analyze the effects of treatments, including herbicides, for noxious weeds for an entire license period. For example, in the existing plan, the licensee proposes to treat 27 acres, but it is not clear where these 27 acres are located. Additionally, noxious weed locations will change over the life of the license, and treatment methods will change over the life of the license. The resource agencies believe a framework could be developed for vegetation and integrated pest management, but specific projects would need to be evaluated and approved every few years based on current information.
- The resource agencies recommend that the licensee treat the entire 100 acres for the priority species, as treating only 27 acres per year will allow species to expand while treatments are not occurring. Treatments of invasive plant species should not be phased, especially given the relatively small area of infestations and the rate of spread.
- The resource agencies recommend that the treatments continue until the weeds are gone instead of for a maximum of 3 years as stated in the DLA.
- The resource agencies recommend that monitoring of treated areas occur for at least 3 years after the weeds are absent. Where treatment areas include or are adjacent to sensitive plant occurrences, monitoring of the sensitive plant populations needs to occur during the year of

the treatment and for at least 2 subsequent years. Occurrences of invasive species that would be treated should be monitored until 3 consecutive years have negative findings. Treatments should not stop at the end of three years of treatments. Invasive monitoring is distinct from inventory surveys but should also include size and infestation level.

- Project roads should be included in treatment areas.
- The resource agencies still believe that there is a need to agree on appropriate buffers for treatments.
- The plan includes an appendix that references an agreement between the State Water Resources Control Board and the FS that provides a waiver for certain activities on National Forest System lands as long as best management practices are implemented. The plan states that the MFAR project falls under this agreement. This is incorrect. The FS does not have a waiver for such activities and even if they did, the licensee would not be a part of the waiver. This should be removed from the plan. Additional design criteria to address FS BMPs should still be added, however.
- The protection measures referenced for wildlife and heritage resources are not addressed in the BEMP and HPMP.
- Monitoring for invasive species should occur wherever management actions cause ground disturbance, introduce imported materials, etc.
- If treatments do not seem to be effective, treatment should be adapted, not terminated.
- BMPs are general. Specific BMPs for projects need to be developed with Forest personnel such as hydrologist.
- Table 2 – Provide Application Rate in lbs ai or ae/acre.
- Table 3 – *Carduus pycnocephalus* should be priority level 2.
- Table 8 – When treating near Stebbins’ phacelia per Avoidance and Protection Measures, use a limited operating period (manual and chemical). This can be less stringent when population is upslope of treatment in the case of drift.
- Table 9 – still need concurrence. Why are there no buffers for surfactants and fungicides? Footnote one for special aquatic features should be meadows, seeps, springs, fens, ponds, and seasonal wetlands but need to confirm with hydrologist and aquatic biologist.
- Figure 1. The figure does not include new occurrences and includes a phased approach.
- The Water Quality Monitoring section is not agreed upon. Need to establish treatments and then develop the appropriate monitoring methods, timing, frequency, duration, etc. Monitoring should occur after treatment and for as many years as treatments occur.

Bald Eagle Management Plan

The resource agencies participated in the development of this management plan and have no comments specific to the plan at this time. However, the resource agencies would like to discuss whether there are potential project effects that warrant the need to prepare an Avian Collision and Electrocutation Plan that addresses raptors other than bald eagle.

Volume 3, Exhibit E, Final Technical Study Reports (Supporting Document B)

Visual Quality Assessment (REC 5)

The resource agencies have reviewed the final visual technical report (REC 5) and have the following comments:

Section 5.2.1, paragraph 1. EVC is another component of the USDA-FS VMS that is independent of VQOs. A brief explanation of EVC and associated definitions is included in Appendix A for reference. In general, the EVC methodology uses a five point system to rate the existing visual conditions of a Forest. EVC ratings range from EVC Type I (ecological changes only), to EVC Type V (landscape changes are strong and obvious). During a meeting conducted on June 15, 2009 the ENF and TNF indicated that none of the Project facilities are classified as EVC Type V. As a result of this clarification, facilities that had been rated EVC Type V were changed to EVC Type IV.

Section 6.2.1, Pg. 18, paragraph 3, MFAR Viewshed. Include in this section, a reference to the section of the river from Oxbow Reservoir and Auburn that is eligible under the Wild and Scenic Rivers Act.

Section 6.2.1, Page 22, paragraph 1. The Passive Microwave Reflector Station above Ralston Afterbay is visible from Blacksmith Flat Rd. and meets an EVC or Type III.

Section 6.2.1, Page 23, paragraph 2: Include in this section, a reference to the section of the river from Oxbow Reservoir and Auburn that is eligible under the Wild and Scenic Rivers Act.

Page 15 under Table 5-4 (see following) change II to III

Table REC 5-4. EVC Assessment of MFP Facilities or Features that are Visible from USDA-FS Managed Viewsheds.

Passive Microwave Reflector Station above Ralston Afterbay	Microwave Reflector	Not Noticed	R	II	Trail and microwave not noticeable from the road.

Volume 3, Draft Biological Assessment/Biological Evaluation (Supporting Document C)

The resource agencies did not participate in the development of this document and do not necessarily agree with the adequacy of protection measures or the conclusions regarding impacts that are contained within the document. A biological evaluation that analyzes and discloses the effects needs to be approved by the FS and BLM once proposed measures are developed.

The BA/BE needs to address the special-status plants and wildlife that have potential habitat within the project area even if they have not been identified.

The BA/BE needs to address that the current list of special-status plant species will change during the life of the license.

Under Section 2 (Consultation), the BA/BE states that specific topic areas pertinent to this BA/BE that were developed include Vegetation and Integrated Pest Management Plan (VIPMP). This topic area is still being developed. The effects of a plan that has not been developed cannot be properly analyzed.

Volume 5, Draft Historic Properties Management Plan (Supporting Document E)

Cultural Resources

There are four National Register eligible Native American sites located within the APE of the MFP. All of these sites are located within or near Project Recreation facilities on federal public lands administered by the Eldorado National Forest. The DLA and the HPMP list a variety of activities that have the potential to adversely affect these Historic Properties ranging from routine and heavy maintenance to removal, reduction and consolidated of the recreation facilities. However, other than identifying avoidance measures such as design and the use of buffers, there is nothing included within the DLA or the HPMP that arrays the process if adverse effects are unavoidable. For example, reduction Hell Hole Campground is identified as a measure in part to protect environmental and cultural resources and the only measures identified for cultural resources is avoidance. However, due to the fact that that a NRHP eligible Historic Property, predominately subsurface, is overlain by the campground. Therefore, it is likely that the reduction activities may have the potential to adversely affect a Historic Property, that would trigger consultation with agencies and interested parties per 36 CFR 800.5 in order to assess adverse effects and if so, resolve adverse effects per 36 CFR 800.6.

In addition, the Eldorado National Forest has reviewed HPMP Appendix C – Activities Exempt from Further Review. The HPMP identifies these activities as exempt from further evaluation. The ENF strongly disagrees with the inclusion of several of these activities due to the above concerns, including, but not limited to, the construction of new project facilities and non-routine recreation facility activities.

It is unclear as to how Section 106 obligations are incorporated in the DLA, as the development on an HPMP is a standard component of FERC's two party Programmatic Agreements (PA) in consultation with SHPO. The execution of the PA and its subsequent implementation satisfies FERC responsibilities per the Section 106 of the National Preservation Act, as amended for all actions carried out under the license. However, the DLA does not make mention of an anticipated PA or include a discussion of compliance under the full 36 CFR 800 process, only the process up to 36 CFR 800. 4.

Additionally, it is unclear if SHPO received the DLA (not on the distribution list) or the draft HPMP for their review and comment. At present, the DLA and HPMP appear to be incomplete in relation to fulfilling obligations under the NHPA, specifically Section 106.

Tribal

Both the DLA and HPMP addresses Tribal resources and issues related to cultural resources. However, it is unclear if non-cultural resource issues have been raised or what processes will be undertaken to consult with Tribes outside of cultural resource sites. Of particular concern is Traditional Gathering. As it appears not to be addressed in the DLF Tribal Resources section or HPMP, it is unknown if this is an issue. However, it is one such activity or practice that a consultation process should be established. At present it is not. Compounding this issue is the fact that, at present, herbicides and pesticides are included as 'Activities Exempt from Further Evaluation' in the HPMP.

Attachment 1

Rationale Report for

Middle Fork American River Project

Recreation Plan

20 December 2010

Rationale for Recreation Survey

As part of managing the recreation resources within or affected by the Middle Fork American River (MFAR) project, understanding the dynamic changes in recreation over the life of the license is critical. It is widely recognized that substantial changes in recreation use, activities, motivations, and other related items can happen in a short span of time. These trends are important to recognize and track so that adjustments in management strategies can be made in order to prevent the degradation of either resource conditions or recreation experiences. As an example, the Outdoor Recreation Resources Review Commission, which was largely responsible for developing use, activity, and motivation data starting in 1960, recommended completing recreation surveys on a 5-year interval (USDA 2005). The change over time of visitor attitudes, preferences, use patterns, experience, and capacity may require modifications to the management of recreation within the Project area. This form of information gathering is aimed at fully using recreation sites while mitigating Project-related impacts within and adjacent to Project-affected areas and the downstream footprint area of the project... The timing of this measure (6 years) was developed to ensure changes in recreation could be identified with sufficient time for management programs to react and to correspond with reporting requirements for recreation that FERC requires. This measure will provide the licensee, FS, BLM, Reclamation, and C DPR the ability to react to changes and provide the quality recreation opportunities in the Project area required to meet the Forest Plan, and other applicable management standards.

Rationale for FS, BLM, and Reclamation Liaisons

To ensure projects on, adjacent to, or affecting National Forest System lands comply with the respective Forest Land and Resource Management Plans as amended, and Region 5 design standards including design for accessibility; projects on, adjacent to, or affecting BLM lands comply with the Sierra Resource Management Plan, and the Americans With Disabilities Act; and projects on or affecting Reclamation lands comply with the 1992 Auburn State Recreation Area Interim Resource Management Plan, it is critical that the licensee identify a single liaison to meet these objectives. Cooperation during all phases of the Projects will ensure early and upfront clarity to achieve this goal of compliance with applicable standards. This measure is not intended to require specific staffing on the part of the licensees, but rather is intended to provide efficient and effective planning and communication among the FS, BLM, C DPR, and licensees.

Rationale for Review of Recreation Developments

It is the desire of the FS, BLM, Reclamation, and CDPR, along with other interested parties to continue a level of coordination and adjustment for the Project. By having specific coordination meetings, results of surveys, and other input from prior years can be reviewed. These reviews will allow for the determination of necessary maintenance, rehabilitation, construction, and reconstruction work needed, based on facility condition and other factors at the time. Data from ongoing monitoring will assist in making any needed changes in the schedule of work, and for future planning.

This condition also identifies the recreation facilities associated with the Project, and identifies those facilities which shall remain inside the Project boundary.

Recreation Implementation Plan

It is the desire of the FS, BLM, Reclamation, and CDPR, along with other interested parties, to continue a level of coordination and adjustment for the Project and implementation of the Recreation Plan. Meetings every six years to review the results of surveys and other data will assist in determining necessary maintenance, rehabilitation, construction, and reconstruction work needed based on facility condition and other factors at the time. Data from ongoing monitoring will assist in making any needed changes in the schedule of work and for future planning.

Rationale for Specific Recreation Measures

The licensee has been, and continues to be, the substantial force in recreation development within the MFAR project area. The licensee's role in facility and infrastructure development has been pervasive over the last 50 years.

Recreation facilities were planned by the licensee during the same period that initial project development occurred. In as early as the 1960's, the licensee acquired funds to build recreation facilities at Hell Hole and French Meadows Reservoirs, in the vicinity of the Duncan Creek and Long Canyon Diversions, and at Ralston Afterbay. These funds, received through Davis-Grunsky Act Recreation Grants, required a feasibility report that described the need for the various recreation facilities (Leeds, Hill and Jewett, 1964). The original Agreement between the licensee and the FS for the Administration, Operation and Maintenance of Recreation Facilities on the Middle Fork American River Project on the Eldorado and Tahoe National Forests (1965) recognized that the construction by PCWA of French Meadows and Hell Hole Reservoirs, Duncan Creek and Long Canyon Diversions, and Ralston Afterbay created mountain lakes having great potential recreational use by the public and that the Agency had a responsibility to provide such facilities as roads, parking areas, water and sanitary facilities, campgrounds, picnic areas and boat ramps and housing and support facilities.

Through the development of the MFAR reservoirs, the accompanying infrastructure development improvements to access roads, and the recreation facility development, the licensee has been and is the greatest influence within the MFAR Project area. In order for visitors to experience quality recreation opportunities and be able to fully utilize recreation sites within the

Project area, it is necessary to ensure that the appropriate infrastructure is in place, in good condition, and that the appropriate level of accessibility is provided through design standards. Ongoing maintenance and improvement efforts coordinated between the FS and PCWA have provided for accessibility at some of the recreation facilities; however other accessibility needs have been identified in PCWA's REC-1 Technical Study Report (2010). FERC regulations at 18 CFR 2.8 require the licensee to "develop suitable public recreational facilities upon project lands and waters and to make provisions for adequate public access to such project facilities and waters and to include therein consideration of the needs of physically handicapped individuals in the design and construction of such project facilities and access." FS policy (USDA 1998a and USDA 2000) is to provide 100 percent barrier-free access where possible, consistent with the intent of the Region 5 (R5) "Universal Access Strategy."

User surveys conducted by the licensee indicate how important the reservoirs are to the visitors themselves. The three most popular activities for visitors to the MFAR Project are camping at developed sites, fishing and reservoir recreation. For example, 83 percent of visitors surveyed at French Meadows Reservoir indicated they intended to camp at a developed site, 48 percent said they would engage in reservoir recreation and 37 percent indicated they intend to fish. 17 to 34 percent of visitors to Hell Hole and French Meadows Reservoirs indicated they had brought a boat trailer with them (PCWA REC-2 TSR, 2010)). In addition, visitors to the MFAR Project have identified that hiking trails are important to very important as a part of their recreation visit (PCWA REC-2 TSR, 2010). This is consistent with Statewide and Regional studies of the types of recreation activities visitors participate in and desired opportunities. Although 60 percent of visitors said that hiking trails are very important or important to choosing the area to recreate at, only 34 percent of visitors said that they had or will hike or walk during their visit (PCWA REC-2 TSR, 2010). This discrepancy demonstrates the need for and demand for walking and hiking opportunities within the MFAR Project.

The licensee has, through collection agreements, funded parts of the recreation operations at some of the recreation facilities within the MFAR Project. Numerous other funding sources, including Appropriated, Recreation Enhancement Funds, Granger-Thye Act fee offset¹, and others have been used to supplement licensee funds. Even with these funds, there is still a substantial amount of deferred maintenance at the recreation facilities within the MFAR Project (PCWA REC-1 TSR, 2010).

There are a number of amenity upgrades and improvements in the specific recreation conditions. These have largely been developed through the analysis of the licensee's visitor survey results (REC-2 Technical Study Report, 2010), the recreation site condition survey results (REC-1 TSR, 2010), the reservoir recreation studies (REC-3 TSR, 2010), the stream-based recreation studies (REC-4 TSR, 2010), and FS knowledge of uses, trends and needs within and adjacent to the project area. These information sources highlighted needs identified by visitors for new facilities and upgrades to existing amenities at licensee-constructed facilities.

Additional specific rationale sections accompany each of the following reservoirs or areas:

¹ Under the authority of the Granger-Thye Act, campground concessionaires operating government facilities (campgrounds) renovate, recondition, improve and maintain the facilities in lieu of fee due to the government. This heavy maintenance work is referred to as "fee offset".

Hell Hole Recreation Area

Hell Hole Campground

This campground is located 1.3 miles from the Hell Hole Reservoir boat ramp and yet trailers are not recommended due to limited parking space. Visitor surveys indicate that 37 percent participate in reservoir recreation and 26% fish. Drainage from the parking area is leading to erosion of the access path to the toilet and some camp sites (PCWA, REC-1 TSR, 2010). Three campsites within this campground are located within an area of sensitive resources.

The most common response of campground visitors regarding the activities they intend to participate in was camping in developed sites (56 percent), followed by reservoir fishing (19 percent). The most frequent secondary activity visitors identified was hiking/walking (44 percent) (PCWA, REC-1 TSR, 2010).

The specific measures identified are to address drainage problems associated with the parking area, to provide for access for boat trailers and larger vehicles, provide desired hiking and walking opportunities, and to protect sensitive resources in the vicinity of the campground. By eliminating some of the campsites there is a need to reconfigure the facility. As a part of reconfiguring the campground, there is an opportunity to improve utilization of the campground and better meet public need.

There are limited hiking opportunities in the vicinity of the Hell Hole Reservoir recreation facilities, and there are no trails directly linking the recreation facilities. This trail will provide a means for campers at Hell Hole Campground to utilize the Hell Hole Vista without having to drive to the parking area. Current accessibility standards for trails outside of developed recreation sites are different from the standards for walkways within developed sites. (USFS, 2006a, USFS, 2006b), and allow for departures from the guidelines when application of a technical provision would cause a change in the trail's setting or the purpose or function for which the trail is designed., An example of the difference in standards is the current standard for maximum grade of a walkway within a developed site is 5 percent, whereas the maximum grade for a trail is up to 10 percent for limited stretches.

Big Meadows Campground

Portions of this campground have been reconstructed and improved over the last several years. However some of the camp units still do not meet current accessibility standards and have other deficiencies. Additionally, the campground is near an area suitable for interpretation regarding the rich cultural resources.

The most common response of campground visitors regarding the primary activities they intend to participate in was camping in developed sites (37 percent), followed by reservoir fishing (32 percent). One of the frequent secondary activities visitors identified was hiking/walking (35 percent) (PCWA, REC-1 TSR, 2010).

There are limited hiking opportunities in the vicinity of the Hell Hole Reservoir recreation facilities, and there are no trails directly linking the recreation facilities. This trail will provide a

means for campers at Big Meadows Campground to utilize the Hell Hole Vista without having to drive to the parking area. Current accessibility standards for trails outside of developed recreation sites are different from the standards for walkways within developed sites. (USFS, 2006a, USFS, 2006b), and allow for departures from the guidelines when application of a technical provision would cause a change in the trail's setting or the purpose or function for which the trail is designed., An example of the difference in standards is the current standard for maximum grade of a walkway within a developed site is 5 percent, whereas the maximum grade for a trail is up to 10 percent for limited stretches.

Upper Hell Hole Campground

Upper Hell Hole Campground is located on the southeast shore of Hell Hole Reservoir, about four miles from Hell Hole Boat Ramp. This site is accessed by boat and by foot travel, via the Hell Hole Trail (FS Trail 14E02). There are sensitive resources located within or adjacent to the campground which warrants the need to remove the improvements at the campground and allow for dispersed use at the site. Future site monitoring and clean-up of the site is incorporated into the ongoing operations and maintenance. Information from future recreation surveys, along with information from monitoring of the site and assessment of impacts to sensitive resources will be used to determine whether future enhancements are needed, such as establishment of a boat-in/walk-in campground within the Upper Hell Hole area.

Hell Hole Boat Ramp and Associated Parking Areas

The Hell Hole Boat Ramp extends to an elevation of 4,530 feet. (PCWA REC-3 TSR, 2010). The REC-3 TSR recognizes that the reservoir water level has dropped below this elevation during the recreation use season during dry and critically dry years. Future operations will likely continue to cause reservoir levels to drop below the bottom of the boat ramp during the recreation use season in the future.

REC-1 TSR identifies that the pavement in the upper parking area is generally in good condition, but that some segments are in poor condition and that the stripping is no longer visible (traffic markings and parking space stripping was completed in Summer 2010, however there is a need for regular repainting). The existing chain link fence is visually inappropriate at this site and needs to be replaced with fencing that meets PCWA's needs while still maintaining the visual quality at the site.

There is a need for potable water at the Hell Hole Boat Ramp. The Feasibility Report for the MFAR Project completed to accompany the application for Davis Grunsky Funds for construction of the MFAR recreation facilities described PCWAs commitment to provide water at camping, picnicking and **boating** areas where facilities are constructed by the Agency (Leeds, Hill and Jewett, 1964). 60 percent of visitors surveyed at Hell Hole Reservoir, as reported in PCWA's REC-2 TSR (2010), identified that drinking water is important to very important.

Hell Hole Vista and Associated Parking Area

PCWA's REC-1 TSR (2010) identifies the Hell Hole Vista Parking Area as being in poor condition and lacks an accessible parking space. These conditions were recently addressed. The

REC-1 TSR goes on to identify that the Vista site is not accessible due to obstacles, level changes and the presence of stairs. In addition, the access trail from the parking area to the Vista and the picnic table along the trail are in poor condition and not accessible. The measures proposed for the Hell Hole Vista would address these deficiencies.

Hell Hole Administrative Station

The Hell Hole Administrative Station is in disrepair and in need of upgrading to better meet current administrative need, including adequate workspace and storage for operation and maintenance of the Hell Hole recreation facilities. This facility was identified in the 1965 MOU between the FS and PCWA to serve as a housing and support facility to be provided by PCWA. The facility was subsequently constructed under the Davis Grunsky funding to provide the needed administrative site for better managing and operating the campgrounds and facilities. This condition proposes to modify this facility to provide the space needed at this time for administrative workspace and storage along with providing a recreation rental to serve the visiting public that are looking for a recreation opportunity other than camping, but still in proximity to Hell Hole Reservoir. The FS has found that other recreation rentals on the Eldorado National Forest are in high demand and have high occupancy rates, indicating that there is a need for this type of recreation opportunity.

Hell Hole Reservoir Trail

As stated above, there is a substantial demand from recreation visitors to the MFAR Project area and campgrounds for hiking and walking opportunities and a lack of these opportunities. This conclusion is reflected in the discrepancy between the number of visitors that reported hiking and walking as important to very important to their visit, in comparison to the percentage of visitors that reported participating in this activity. The feasibility report for the MFAR (Leeds, Hill and Jewett, 1964) identified the intent to provide a foot trail all the way around the reservoir and addressed the need to move the trail on the south side of the reservoir due to the project (also see the 9/18/1967 MOU between the FS and PCWA). The Exhibit R map (dated 3/1967) shows the trail along the south side of Hell Hole Reservoir as “relocated” and shows the trail extending to the east and along a portion of the north side of the reservoir, connecting with the Hell Hole 4WD Trail. Further, PCWA obtained an easement from PG&E for the right to “construct, maintain and use trails suitable for both pedestrian and for equestrian use for the eventual use of public recreational purposes in connection with PCWA’s Hell Hole Reservoir project (Grant Deed dated 2/18/1966). Additionally, Upper Hell Hole Campground is repeatedly referred to in the Recreation Feasibility Report and in the Exhibit R maps as a “Trail Camp” with both boat and trail access. There is continued visitor interest in trail access to the reservoir as identified in REC-2 TSR (2010) This TSR lists the most frequent responses for secondary reasons for visiting the area as “access to lake/reservoir”, identified that 66 percent of visitors said hiking trails are very important or important, and that nearly 66 percent of visitors said that fishing access trails are very important or important. In contrast, only 34 percent of visitors said that they had or will hike or walk during their visit (PCWA REC-2 TSR, 2010). This discrepancy demonstrates the need for and demands for walking and hiking opportunities within the MFAR Project.

French Meadows Recreation Area

The water systems for the French Meadows area were installed in the 1960's and is showing signs of age by frequently breaking and becoming unreliable. This affects customer service when water is not available for visitor use; repair costs are increasing; and when there is a leak or a break water quality is typically compromised. Per PCWA, REC-1 Table 1-12 the access routes to water system facilities has rills and the remarks indicate that the erosion control structures are not effective. The road/trail shall be brought up to current FS standards to mitigate resource impacts.

Use occurs in the French Meadows area all year long. The reservoir is accessed in winter and spring/early summer by vehicles such as snowmobiles, or occasionally by 4-wheel drive enthusiasts who participate in snow-play-driving to get to French Meadows reservoir to go fishing. There have been occasions when snowmobiles pull boats to the reservoir (pers.com. Ed Moore, 2010). Most recently this was evidenced in May of 2010 when Forest Road 22 was plowed to the Hell Hole turn off and tracks through the snow on the 22 road through 12 or more inches of snow gained access to French Meadows reservoir where Kiewit Pacific Corporation was initiating modification to the LL Anderson Spillway (via plowing and closure of the Mosquito Ridge Road). Several fishermen said that fishing was great at French Meadows reservoir during the spring snow melt (Pers. Comm, Mo Tebbe, 2010). Once the area is accessible in the spring the concessionaire prepares to open the campgrounds including turning on the water system and obtaining water tests to determine potability. Snow drives out those that recreate in the area in late autumn though the concessionaire typically chooses to close most of the campgrounds and winterize the water system in mid September when use sharply declines. Provide barrier-free access where possible, consistent with the intent of the most current Region (USDA FS) policy by:

- Replacing, resetting, or retrofitting site infrastructure (i.e. tables, fire rings, or barriers etc.)
- Moving infrastructure to be accessible (i.e. moving food storage lockers, faucets and sumps, providing approaches to facilities consistent with the campground or use area's surface, relocating toilets closer to a road and providing a turn out on the road for the toilet).
- Grading or compact walking surfaces, in some areas steps may be necessary.
- Leveling the site and removing protrusions
- Providing a minimum of 1200 square feet per single site or 2400 square feet per double site, etc.
- Reconstructing spurs to meet accessibility standards which may include resetting barriers to allow access from spurs to the unit.

There is a substantial demand from visitors to the MF project area and campgrounds for hiking and walking opportunities, and a corresponding lack of these opportunities. This conclusion is reflected in the discrepancy between the number of visitors that reported hiking and walking as important to very important to their visit, in comparison to the percentage of visitors that reported participating in this activity. The feasibility report for the MFAR (Leeds, Hill and Jewett, 1964) identified the intent to provide a foot trail all the way around the reservoir.

Current accessibility standards for trails outside of developed recreation sites are different from the standards for walkways within developed sites. (USFS, 2006a, USFS, 2006b), and allow for

departures from the guidelines when application of a technical provision would cause a change in the trail's setting or the purpose or function for which the trail is designed., An example of the difference in standards is the current standard for maximum grade of a walkway within a developed site is 5 percent, whereas the maximum grade for a trail is up to 10 percent for limited stretches.

There is continued visitor interest in trail access to the reservoir as identified in REC-2 TSR (2010). This TSR lists the most frequent responses for secondary reasons for visiting the area as "access to lake/reservoir", identified that 66 percent of visitors said hiking trails are very important or important, and that nearly 66 percent of visitors said that fishing access trails are very important or important. In contrast, only 34 percent of visitors said that they had or will hike or walk during their visit (PCWA REC-2 TSR, 2010). This discrepancy demonstrates the need for and demands for walking and hiking opportunities within the MFAR Project.

This trail will provide a means for visitors to access French Meadows reservoir. Sixty-seven percent of the visitors surveyed at French Meadows Campground said that fishing trail access is very important or important. There are several existing, now vegetated old roads in the vicinity of the French Meadows campground that could be improved to provide hiking and bicycling opportunities. The FS proposes opening some of these old roads, specifically between French Meadow Campground and the French Meadow Boat Ramp and monitoring use to determine if this network of old roads can be utilized to provide additional recreational opportunities.

When a recreation facility, (i.e. campground) is brought up to accessibility standards, replace, repair, or reconstruct the interior campground roads and spurs, and associated features (i.e. culverts) to remedy the issues identified in PCWA REC-1 TSR Tables REC 1-11 and REC 1-12. When flush toilets are replaced the septic and leach systems would be evaluated for replacement.

Ahart Campground

This campground is unique in that it is the only developed project campground located on a river (Middle Fork American River upstream of French Meadows Reservoir). Ahart and the western loop of French Meadows campgrounds are the only campgrounds in this recreation area that are open to use after the concessionaire, who operates and maintains the recreation facilities under a 10-year term special use permit, has left the area in the autumn (typically mid-September). Occupancy in the autumn is a normal occurrence (personal communication from Ed Moore) The closest potable water is available at Lewis Campground (approximately 1 mile) when the concessionaire is in the area and before the water systems are winterized. No potable water is available once the water system is winterized.

Ahart Campground is approximately 3.5 miles from the nearest boat ramp (McGuire). Visitor surveys indicate that 18 percent participate in reservoir recreation, 32 percent fish, and 12 percent participate in streamside day use. The most common response of campground visitors regarding the activities they participated in was camping in developed sites (55 percent). The most frequent secondary activity visitors identified was relaxing (42 percent) and hiking/walking (38 percent).

Upon review of the campground in 2010, the FS proposes reconstruction of the campground road and spurs and surfacing with compacted aggregate in lieu of pavement (PCWA DLA Recreation Plan, 2010). Construct drainage diversions around sites 1 and 8 to prevent erosion through the sites.

The Feasibility Report for the MFAR Project completed to accompany the application for Davis Grunsky Funds for construction of the MFAR recreation facilities described PCWAs commitment to provide water at camping, picnicking and boating areas where facilities are constructed by the Agency (*Leeds, Hill and Jewett, 1964*). Fifty-nine percent of the people responding to the 2007 visitor survey said that drinking water was very important to important to them.

Specific measures for routine heavy maintenance items or removal/reduction of a facility are:

- Repair and pave Forest Road 96 from the end of the pavement near the 42 road intersection past campsite 10 in the Ahart campground to provide visitors with a more enjoyable opportunity through dust reduction.

- Provide a potable water source, operated by hand pump, at this campground so that water is available, on site, whenever the area is accessible.
- Replace the double unit vault bathrooms that were installed in the 1960s, that do not meet current accessibility standards and show signs of rot.
- Upon FS facility assessment in 2010 campsite 9 appeared to have no use; and in conversation with retired Recreation Officer Ed Moore, this site seldom was used. Campsite 9 is recommended for abandonment and restoration.
- Place additional barrier rock between sites 1 and 2 to limit motorized use to the spur.

French Meadows Campground

This campground is located on the south shore of the French Meadows Reservoir and is approximately 0.5 mile from the French Meadows Boat Ramp and approximately 4 miles from the McGuire Boat Ramp.

The western loop (sites 32-75) of French Meadows campground and Ahart are the only campgrounds in this recreation area that are open to use after the concessionaire, who operates and maintains the recreation facilities under a 10-year term special use permit, has left the area in the autumn (typically mid-September). Occupancy in the autumn is a normal occurrence when the concessionaire is in the area and before the water systems are winterized (personal communication Ed Moore). No potable water is available once the water system is winterized.

The most common response of campground visitors regarding the activities they engaged in was camping in developed sites (62 percent), followed by reservoir fishing (23 percent). The most frequent secondary activity visitors identified was oriented with water play (54 percent). (PCWA, REC-1 TSR, 2010).

Specific measures for routine heavy maintenance items or enhancement, enlargement, removal, reduction of a facility are:

- Replace toilets to meet current accessibility standard as well as address deferred maintenance which includes rot in most of the buildings (FS review, 2010). Relocate toilets to meet accessibility standards: locating the toilet closer to roads, construct adjacent accessible turnouts and walkways. Furnish and install one additional single unit toilet in the west loop.
- A grant from the National Forest Foundation provided funding in 2002 for animal resistant food lockers. This was the first time that these lockers had been installed on the Tahoe National Forest, little was known about them. One season of use showed the FS that the smaller lockers were not large enough to accommodate the size of cooler typically brought by visitors.
- Campground hosts have nearly full-time presence on site from before opening to after closing the campgrounds. The special use permit has a term of 5 years with the ability to extend to 10 years. Sites 3 and 32 are dedicated hosts sites. By providing an on site holding tank the host would not need to leave the site to go to the dump station. this would provide more time for facility operation and maintenance and customer service and provide incentive for host retention and management continuity.

- Some area visitors tend to bring vehicles that fill up the entire spur space, indicating a need for larger sites. Whereas other visitors bring and maneuver trailers or motorhomes into site spaces that are not designed to meet this type of recreational vehicle. It is noted in PCWA REC-1 TSR Appendix J-1 in the remarks column notes that many spurs are narrow. Given the topography of this campground, and to meet demand for wider and/or longer spurs a few sites can be converted to accommodate larger/more vehicles and better meet accessibility standards. As a minimum the following sites would be converted to pull through sites (61 and 62, 33 and 2, and 19 and 20), or enlarged (24, 34, 66) and in one case enlarged for a larger RV (25).
- Sites 16, 55, 65, 69 and 72 do not receive much use and would be abandoned and rehabilitated.
- Sites 6, 11, 43, 71 and 8 would be reconfigured to better optimize the area by moving site infrastructure to end of the spur (6-71) or away from the road (site 8).
- Reconstruct interior campground roads to meet accessibility standards above, to widen, and to repair or replace road infrastructure issues such culverts in poor condition, buried or clogged, rusted or crushed (PCWA, REC-1 Tables 11 and 12).

Lewis Campground

This campground is located on the south shore of the French Meadows Reservoir and is approximately 3.5 miles from the French Meadows boat ramp and less than a mile from the McGuire Boat Ramp.

This campground is on the north shore water system which is typically winterized first, right after the Labor Day weekend. No potable water is available once the water system is winterized.

The most common response of campground visitors regarding the activities they engaged in was camping in developed sites (62 percent), followed by reservoir fishing (23 percent). The most frequent secondary activity visitors identified was oriented with water play (54 percent). (PCWA, REC-1 TSR, 2010).

Specific measures for routine heavy maintenance items or enhancement, enlargement, removal, reduction of a facility are:

- Replace toilets to meet current accessibility standard as well as address deferred maintenance which includes rot in most of the buildings (FS review, 2010). Relocate toilets to meet accessibility standards: locating the toilet closer to roads, construct adjacent accessible turnouts and walkways. Furnish and install one additional single unit toilet in the west loop.
- Campground hosts have nearly full-time presence on site from before opening to after closing the campgrounds. The special use permit has a term of 5 years with the ability to extend to 10 years. Site 1 is a dedicated host site. By providing an on site holding tank the host would not need to leave the site to go to the dump station. This would provide more time for facility operation and maintenance and customer service and provide incentive for host retention and management continuity.
- Some area visitors tend to bring vehicles that fill up the entire spur space, indicating a need for larger sites. Whereas other visitors bring and maneuver trailers or motorhomes into site

spaces that are not designed to meet this type of recreational vehicle. To meet these demands several sites would be converted to pull through sites (27 and 29).

- The following are considered the minimum sites that can be enhanced to meet accessibility standards. Sites other than these listed here may be widened or lengthened: widen to 16 feet (site 37); widened to 20 feet (sites 21, 38, 39); the spur lengthened to 50 feet (site 13).
- Enlarge the living area of sites 5 and 20 to a minimum of 1200 sq.ft.
- Reconstruct interior campground roads to meet accessibility standards above, to widen, and to repair or replace road infrastructure issues such culverts in poor condition, buried or clogged, rusted or crushed (PCWA, REC-1 Tables 11 and 12).

Poppy Campground

This campground is located on the north shore of French Meadows Reservoir and is accessible by either boat or the Western States Trail.

The most common response of campground visitors regarding the activities they engaged in was camping in developed sites (67 percent). The most frequent secondary activity visitors identified was non-motorized reservoir boating, relaxing, and reservoir oriented water play or sun bathing (100 percent). (PCWA, REC-1 TSR, 2010). Since this is a boat or hike in campground, one could deduce from the primary and secondary activities that all persons arrived at Poppy via boat. This could be quite a challenge for some people since the reservoir is typically very windy.

Specific measures for routine heavy maintenance items or enhancement, enlargement, removal, reduction of a facility are similar to PCWAs DLA Recreation Plan Table 3 with minor revisions:

- Sites 6, 9, 11 and 12 have historically been under-used. To reduce maintenance costs remove these sites and rehabilitate/revegetate the site
- Remove and replace the two single unit toilets with one accessible single unit toilet. The type of toilet will be determined at the time of construction and approved by the FS based on advances in technology which deals with low or no maintenance issues.
- Remove obstacles and level camp sites 1-5, 7, 8 and 10, where feasible and compact sites to a minimum of 1,200 square feet.
- Under Poppy Campground Trailhead the trailhead would be moved, and a connector trail created, see below.
- The Western States Trail is the hiking/bicycle trail used to access Poppy Campground. The WST is maintained by the FS and Western States Foundation and provides trail opportunities on the north side of the reservoir. Direction signing needs to be placed on the WST (16E10) from each trailhead (Red Star Ridge and new trailhead).

Coyote Group Campground

This Group campground consists of four group sites and is located on the east side of the French Meadows Reservoir.

While daily data has not been collected by concessionaires, there was a record of reservations kept by the previous concessionaire American Land and Leisure. It is common that each group

site is reserved every weekend during the summer (pers.con. Ed Moore, USFS). These group campgrounds are typically open for use from snow melt or Memorial Day (which ever occurs first) through the Labor Day weekend. The gates to the sites are closed when there is no reserved use; however these sites can be used if vacant without a reservation.

The most common response of campground visitors regarding the activities they engaged in was camping in developed sites (44 percent). The most frequent secondary activity visitors identified was reservoir fishing (56 percent) and relaxing and water play in the reservoir/sun bathing (45 percent). (PCWA, REC-1 TSR, 2010).

In review of PCWA REC-1 TSR 2010 there appears to be a greater diversity of cultures utilizing the group campgrounds than the family campgrounds or other project recreation areas.

All four group sites: The majority recreation plan elements bring these sites up to current accessibility standard or specific routine heavy maintenance items.

There are some circumstances where the campsite can neither be leveled nor protrusions removed in order to make the site accessible due to excessive rock. Alternation of the site would adversely change the character of the setting.

Gates Group Campground

This Group campground consists of three group sites and is located on the east of the French Meadows Reservoir adjacent to the Middle Fork American River.

While daily data has not been collected by concessionaires, there was a record of reservations kept by the previous concessionaire American Land and Leisure. It is common that each group site is reserved every weekend during the summer (pers.con. Ed Moore, USFS). These group campgrounds are typically open for use from snow melt or Memorial Day (whichever occurs first) through the Labor Day weekend. The gates to the sites are closed when there is no reserved use; however these sites can be used if vacant without a reservation.

The most common response of campground visitors regarding the activities they engaged in was camping in developed sites (70 percent) followed by stream based water play/sunbathing. The most frequent secondary activity visitors identified was both hiking/walking and stream based water play/sunbathing (59 percent) and relaxing (44 percent). (PCWA, REC-1 TSR, 2010).

In review of PCWA REC-1 TSR 2010 there appears to be a greater diversity of cultures utilizing the group campgrounds than the family campgrounds. For the Gates Group in particular even though only 43 people responded to the survey question there was representation from the widest range of counties (7) in California in this group camp than anywhere else in the French Meadows area.

Like Coyote Group sites the majority recreation plan elements bring these sites up to current accessibility standard.

There are some circumstances where the campsite can neither be leveled nor protrusions removed in order to make the site accessible due to excessive rock. Alternation of the site would adversely change the character of the setting.

Many Gates group visitors participate in stream based recreation creating a network of user created trails. Formalizing one or two trails that can be accessed by any visitor to the Gates group and signing the trail would provide management of river access. User created trails that are impacting resources would be closed and rehabilitated/revegetated.

French Meadows Boat Ramp

This boat ramp is located on the south shore of the French Meadows Reservoir and encompasses the French Meadows Picnic Area and associated parking areas. The previous concessionaire, American Land and Leisure did not conduct any counts at these facilities. The current concessionaire, California Land Management will be collecting fees at the boat ramp via a FS purchased and installed fee tube and in theory would be able to supply information regarding the number of paying visitors.

The boat ramp is used whenever snow does not prohibit its use as evidenced by FS personnel visit. As previously mentioned the concessionaire is typically on site from snow melt or just prior to Memorial Day weekend, whichever occurs first, until mid September.

As would be anticipated the most common response given by visitors to the area about the primary activity they were engaged in was reservoir fishing (58 percent) followed by camping in a developed site (17 percent). The secondary activity identified by visitors was hiking/walking and reservoir swimming/water play/sunbathing (21 percent each).

Specific measures for routine heavy maintenance items or enhancement, enlargement, removal, reduction of this area is:

- Based on the lack of disturbance of vegetation around picnic tables and grills (several years of patrol pers.com. Ed Moore, USFS) it appears that the French Meadows Picnic Area is used very infrequently and would probably be used more frequently if the opportunity were located closer to toilet, water and garbage facilities. Relocate facilities from two of the picnic sites to the vegetated area southwest of the bathroom facility adjacent to the parking area on the French Meadows Boat Ramp Road. Paint traffic markings in the parking area to identify parking for the picnic sites. The remainder of the facilities in the French Meadows picnic area including waterlines, bathroom, signs, trail, etc. would be removed and the area restored, rehabilitated/revegetated. The Picnic Area parking could be left as is.
- Sign the location of the new picnic area and provide information on website and pamphlets.
- Replace the flush toilets (the buildings are displaying signs of rot) with accessible vault toilets to provide sanitation whenever the boat ramp is accessible and to lower operating costs. Construct the accessible water faucet and sump near the toilets.
- Replacing wooden barriers with suitably sized rock decreases maintenance and provides a substantial barrier to keep traffic where it is intended to be. Cable and post barriers do not

comply with FS policy and present a hazard; replace post and cable with suitably sized barrier rock.

- Drainage work is needed to direct snowmelt and rainwater through reconstruction of drainage ditches.
- This boat ramp is the more frequently used boat ramp at the reservoir and as stated in PCWA REC-1 TSR, 2010 is functional but contains cracking and spalling concrete with vegetation growing in the cracks. In years when the end of the boat ramp is out of the water, there is a sharp drop-off that prohibits vehicles from continued use of the boat ramp, instead boat towing vehicles drive onto the reservoir bed to access the water. Importantly for the FS this boat ramp is also frequently used for fire suppression activities. Water trucks (including nursetankers and fire engines) can not navigate the drop off and cannot easily or quickly negotiate obstacles on the reservoir bed or take the risk of becoming stuck on the reservoir bed. The boat ramp would be extended to meet needs in the critically dry water years. And the concrete would be replaced.
- More effective signing and barriers along the boat ramp would keep people from driving on the reservoir bed when the water surface is dropping.
- Reestablish road clearing limits to provide line of site for motor vehicles.

French Meadows RV Dump

The remains of the visitor center present a safety hazard and is visually unattractive and must be completely removed. This area would then be surfaced and utilized as part of the facility. Provide painted markings to direct traffic including parking spaces. Bring the site up to current FS accessibility standards.

McGuire Boat Ramp and Associated Parking Areas Including Poppy Trailhead

This trailhead and boat ramp is located on the north shore of French Meadows Reservoir and encompasses a total of three parking areas. The previous concessionaire, American Land and Leisure did not conduct any counts at these facilities. The current concessionaire, California Land Management will be collecting fees at the boat ramp via a FS purchased and installed fee tube.

As previously mentioned the concessionaire is typically on site from snow melt or just prior to Memorial Day weekend, whichever occurs first, until mid September although north shore facilities are winterized before south shore facilities.

As would be anticipated the most common response given by visitors to the area about the primary activity they were engaged in was reservoir fishing (33 percent) followed by camping in a developed site (28 percent). The secondary activity identified by visitors was reservoir swimming, water play/sunbathing (53 percent each) followed by relaxing and reservoir fishing both (42 percent). Given that there is a greater response for the second primary activity of developed camping than at the French Meadows Boat Ramp, it could be deduced that more of the users of this boat ramp camp within the French Meadows area.

Specific measures for routine heavy maintenance items or enhancement, enlargement, removal, reduction of this area include removing the current Poppy Campground Trailhead Parking Area, road, and facilities; then restoring and revegetating the area while blocking off vehicular traffic and consolidating the facilities into one area.

- Remove post and cable barriers from the previous Poppy Trailhead parking area to facilitate restoration activities.
- There are two toilet facilities in the vicinity of the Poppy Trailhead, a 2-unit flush and 1-unit vault. The use of the area does not warrant this level of development. Remove all toilets and associated plumbing including faucets, drains, sumps and the fire hydrant and restore the area.
- Consolidate trailhead/boat ramp parking and facilities into one area at the McGuire Boat Ramp Parking SE Lot Area near the access road. To facilitate accessibility for visitors to this area pave and designate and sign six parking spaces nearest the toilet, water, garbage, fee station and information walkway.
- Construct and sign an extension trail from the new parking area to the Poppy Trail (16E10; Western States Trail).
- Sign the remainder of the McGuire SE Parking Lot as parking for boaters.
- Providing barrier rock around the McGuire Parking Lots will keep motorized traffic on existing compacted/hardened surfaces.
- The 2 access roads to the McGuire NE Parking Lot are an un-necessary impact to resources; one of these access roads can be removed and restored/revegetated.

McGuire Picnic Area and Beach

Located on the northshore of the reservoir this area contained a manmade beach. The picnic area and beach was combined with the McGuire Boat Ramp and associated parking area for visitor survey and thus the use at this location can not be differentiated from the boat ramp. However, based on frequent patrols and administration of the area the FS acknowledges that the area is not frequently used.

The previous concessionaire, American Land and Leisure, reported that the group campgrounds tended to be reserved each weekend between Memorial Day and Labor Day weekends; given this areas lack of use, and proximity to the reservoir and present infrastructure the FS proposes to develop the area into a group campground with two sites, one 25 PAOT and one 50 PAOT.

In addition to PCWA's REC-1 Table 4 current FS accessibility standards shall be applied to this site utilizing as many of the existing features and facilities that are in good condition as possible (reusing bear proof food lockers, existing roads and trails, etc.)

Duncan Creek Diversion Area

Much of the area to the north and east of the diversion pool is utilized for dispersed recreation when snow does not limit access. The FS agrees with PCWA REC -1 TSR and adds that the heaviest use is in the fall until the end of October, or deer hunting season.

The visitor use survey had a limited response (5 individuals) when analyzed in whole acknowledged tent camping (4 answered the length of stay question with an average 2.8 nights) was a primary activity. There seems to be a tendency towards stream based recreation as well (PCWA REC-2 TSR).

The FS agrees with PCWA's proposal (REC-1 Table 4 to install sanitation facilities and barrier the perimeter of the DCUA as well as to define camping sites. This area is in a wildland setting. As such continuing the rustic semi-primitive setting is appropriate for this area. An information board would be constructed and installed on which to post pertinent information (fire restrictions, etc).

Long Canyon Recreation Area, Middle Meadows Campground

Middle Meadows Group Campground consists of two group sites which are heavily used during the summer period, particularly during weekends, as shown in REC-1 TSR (2010). The Recreation Plan calls for developing an additional group camping site at this facility at such time when the use exceeds the trigger presented in the section describing the Future Project Recreation Facility Enhancements.

In addition, there is a need to upgrade the generator used to provide power for the well at this campground in order to reduce the production of greenhouse gases. A solar power source for this generator will reduce the use of petroleum products at this site and reduce the overall environmental footprint.

Rubicon River Recreation Area, Ellicott's Bridge River Access Area

The Ellicott's Bridge River Access site provides the primary access to the Rubicon River between Hell Hole Reservoir and Ralston Afterbay. This site is used by anglers and other water-based recreationists using this bypass reach of the Rubicon River. The Ellicott's Bridge River Access Area also serves as a trailhead for the Hunter Trail, which provides access along this segment of the Rubicon River for anglers (Carnazzo, 2010a) This site is regularly used, based on observations by FS staff, in the comments submitted by representatives at the Angler Focus Group Meeting (Carnazzo, 2010), and as reported in REC-4 TSR, (2010). At this time, the FS provides clean-up and visitor management at this site. The use at this site is a result of the licensee's recreation developments in the Hell Hole and French Meadows area, improved access to the area, and from project flows which have increased fish populations and improved angling opportunities through higher summer flows and colder summer water temperatures. There is a need for improved parking, sanitation facilities and access at this river access site for anglers, whitewater boaters and other water-based recreationists, as described in REC-4 TSR (2010), the

comments from Foothills Angler Group (2010), comments from the Foothills Water Network (2009, as presented in REC-4 TSR), and FS staff observations.

Middle Fork Interbay Reservoir Area

By agreement with the relicensing participants, including the FS, no surveys were conducted in the Interbay Reservoir Area. However, since the beginning of the relicensing effort the FS has heard stakeholders report that the Middle Fork American River Interbay area is favored by anglers as a unique stream based recreational activity.

Upon visiting the Middle Fork Powerhouse area in October 2010, the FS found evidence that sanitation facilities are necessary and that upstream access is prohibited by fencing. As such the FS urges PCWA to meet with interested stakeholders to develop a way to access the upstream area while PCWA meet their security needs.

Ralston Afterbay Sediment Removal Access Point Area

This site is identified as an access point for boaters to the afterbay and is open to the public, although it is not considered a developed recreation facility. In particular, this site serves as a launch area for trailered boats, since it is accessible from Forest Road 23, is not as steep as the Ralston Picnic Area Car Top Boat Ramp, and is not blocked by large rocks (PCWA REC-3 TSR, 2010). In order to provide reasonable access for trailered boats, this site will be improved to a limited extent. The improvements will clearly indicate the launch and limit the potential for widening or expansion of the launch from uncontrolled use.

Ralston Picnic Area and Cartop Boat Ramp

This facility is located on the Middle Fork American River just upstream of Ralston Afterbay.

The FS operates and maintains this area through funding from PCWA under the current license.

The primary activity that visitors participate in is reservoir or stream fishing. The secondary activity is reservoir swimming/waterplay/sun bathing (31 percent) or stream swimming/waterplay/sun bathing (33 percent).

Sites 1 and 5 are seldom utilized as evidenced by herbaceous vegetation that is around the site and by weekly maintenance staff and could be removed to reduce maintenance costs.

The car top boat launch has several large boulders prohibiting access to the river; this was done several years ago when wheeled motorized vehicles were entering the river. A better, multi-craft entry to the afterbay is available at the sediment removal access point less than a 0.25 mile to the southeast. There is available parking for vehicles with boat trailers at the picnic area.

There is a user-created trail, along an historic ditch, that travels upstream of the picnic area. This trail has a number of user-created sub trails accessing the MFAR. This trail also accesses a water temperature gage (designated as MF 26.0) that is under special use permit to PCWA.

Developing this trail to a standard that meets FS specification would provide protection of adjacent resources.

Middle Fork American River (Peaking Reach) Recreation Area

Auburn State Recreation Area (SRA) is comprised of approximately 30,000 acres of primarily federal lands that were originally acquired or withdrawn for the purpose of the Auburn Dam Project. These lands include USDI Bureau of Reclamation (BOR) fee title lands, USDA National Forest System lands (FS) (Tahoe and Eldorado National Forests) and USDI Bureau of Land Management (BLM) lands. California Department of Parks and Recreation (CDPR) has managed these lands since 1977 through various agreements with the Reclamation and other federal agencies. The CDPR Commission designated the area as a State Recreation Area in 1979.

Auburn SRA includes approximately 45 miles of the river canyons of the Middle and North Forks of the American River.

Project Nexus

CDPR manages Auburn SRA, which includes lands along the MFAR from just below the Oxbow Powerhouse down to Folsom Lake SRA. The MFAR and the North Fork of the American River below the Confluence are the peaking reach for the MFAR Project. Recreation use within Auburn SRA along the peaking reach includes river- and flow-related recreation use such as whitewater rafting and kayaking, canoeing, angling, and other river recreation use. The altered flow regime on the peaking reach resulting from the MFAR Project affects river recreation use and the cost of managing this use and the facilities that are necessary to support this use.

These recreation sites in the peaking reach are located federal lands managed by the U.S. FS, the Bureau of Land Management and the Bureau of Reclamation (Reclamation) and are identified as such in the discussion below. Since State Parks has served as the primary manager of whitewater and river recreation uses along the peaking reach, State Parks has documented the costs of managing flow related recreation use on the peaking reach. At least one of these sites, Indian Bar, is within the Middle Fork FERC Project Boundary. The purpose of this document is to identify the flow dependent recreation uses and facilities and the cost of operating, maintaining and managing these uses within the peaking reach. The manner in which these sites and costs are addressed in the new FERC license or other non-FERC agreements may vary depending upon location and ownership.

Flow-Related Recreation Use on the Peaking Reach

Flow-dependent recreation activities along the peaking reach within Auburn SRA include canoeing, kayaking, and whitewater rafting and fishing. The project results in higher flows during the summer and fall, which would not occur in the unimpaired condition. These higher flows have attracted the flow-dependent whitewater recreation use. Similarly, the project results in higher flows and colder water temperatures during the summer and fall than the unimpaired

condition which sustains a cold water fishery which has attracted angling use along the peaking reach.

The discussions below regarding flow-related recreation use, facilities and costs in the peaking reach are focused on whitewater boating (rafting, kayaking, and canoeing) and angling.

Between 1999 and 2008 the total estimated average attendance for all of Auburn SRA was 829,973 visitors annually. Attendance figures for Auburn SRA are derived from vehicle counts of parking lots throughout the SRA to which several factors are applied to account for number of people per vehicle and turnover of parking spaces. The recreation sites and parking areas at Auburn SRA serve a variety of types of recreation uses. In some areas, the parking areas primarily serve trail uses, including locations such as the Foresthill Loop Trail, Cool Staging Area and Auburn Staging Area. At Mammoth Bar much of the use is OHV use. Some locations, such as the Confluence, serve a mix of uses. There are several recreation sites which primarily serve flow-dependent recreation uses such as whitewater boating and fishing. These areas include Indian Bar, Ruck-a-Chucky and China Bar.

Ruck-a-Chucky is the primary take-out for the Class IV Tunnel Chute Run and the put-in for the Class II Mammoth Bar run. Other uses of this site include 5 campsites, and general recreation access including anglers. Most of the trail use utilizes the parking area at the top of Driver's Flat Road – which is accounted for as a separate site in the attendance counts. China Bar is a new river access point which includes an entrance station, parking area and boat drop-off/pick-up areas.

There are three primary whitewater runs on the peaking reach of the Middle Fork Project. This includes the 15 mile Class IV "Tunnel Chute Run" from Indian Bar (Oxbow Powerhouse) to Ruck-a-Chucky/Greenwood, the 7-mile Class II "Mammoth Bar Run" from Ruck-a-Chucky/Greenwood to Mammoth Bar and the 4-mile Class II "China Bar Run" from the Confluence to the Birdsell or Oregon Bar access points. Additionally, the 2-mile "Murderer's Bar Run" from Mammoth Bar to the Confluence is a short reach of river that is generally Class II-III with the Class V-VI Murderer's Bar rapid in the middle of the run that is normally portaged. With the opening of the Confluence run (see below) the Murderer's Bar run could become more popular in the future, particularly if a portage trail were provided around Murderer's Bar rapid.

The China Bar run was opened to public use in January 2008 with the closure of the Auburn Dam diversion tunnel and the development of the PCWA American River Pump Station which included returning the river to its historic channel and providing a whitewater bypass channel of the pump station. The Pump Station project included providing some river access facilities to accommodate the river use that would occur once the tunnel was closed and the river returned to its channel. These facilities included an entrance station off of Maidu Drive, a 50-car parking lot and restroom and two equipment drop-off/pick-up parking areas and turnarounds. Other enhancements included improvements to the access roads to the river, barriers along the roads, gates and a pedestrian access trail from turn around to parking area. State Parks is only able to afford staffing the China Bar entrance station on weekends during the summer season.

The Tunnel Chute run is a popular commercial whitewater run due to the controlled flows released by the Middle Fork Project throughout the summer season. Currently PG&E and PCWA coordinate annually with State Parks and commercial whitewater representatives to voluntarily schedule flow releases which enhance whitewater recreation, but do not compromise power production needs. The Mammoth Bar run is also used by commercial whitewater outfitters, but to a much less extent. California State Parks manages commercial whitewater boating on these two runs through concession contracts with approximately 20 to 25 whitewater outfitters in any given year.

Through these concession contracts State Parks has reliable use information regarding commercial whitewater use. From 2000 through 2009 an average of 19,311 commercial whitewater boating clients and crew used the Tunnel Chute run. During this same period (for the years data is available), an average of 690 commercial whitewater clients and crew used the Mammoth Bar run.

Private (non-commercial) whitewater use is “self-reported” on these runs through sign-in sheet boxes at the put-ins. This is not a particularly reliable method of generating use data. State Parks estimates about 15 percent of private use is actually reported on these sign in sheets. From 2000 through 2009 (for the years data is available) an average of 330 private users on the Tunnel Chute run reported their use via the sign-in sheets. Using a 15 percent estimated reporting factor the private use on this run is estimated to be 2200 users annually. For the period from 1996 through 2006, there are 5 years for which there is private use data for the Mammoth Bar run. During these years an average of 87 private boaters reported use of the Mammoth Bar run. Using the 15 percent estimated reporting factor the private use on this run is estimated to be 580 users annually.

The China Bar run slowly gained popularity in the first two seasons of use (2008-2009) that this stretch has been available. This Class 2 run is very close to the City of Auburn and highly accessible via Highway 49. The man-made bypass channel at the Pump Station was designed to be attractive to whitewater boaters and provides an interesting wave/hole hydraulic play feature for whitewater boaters at certain flows. State Parks expects this run to become very popular in the future. State Parks estimates 3056 visitors used the China Bar area in 2008 and 9,332 visitors used the area during 2009. Recreation uses of this site include whitewater boating, trail use and fishing. Not all of the visitors to China Bar engaged in flow dependent recreation. State Parks estimates that approximately sixty percent of the current use in the area is whitewater boating, fishing or other flow dependent recreation.

Below are all of the specific recreation sites on the peaking reach which serve flow related recreation uses.

Indian Bar River Access Area

Located on Tahoe National Forest this area is a popular white water boating launch area as well as day use area. PCWA REC-1 TSR (2010) survey indicates that the primary use of this area was whitewater boating (43 percent) with secondary activities being picnicking, fishing, and stream based water play or sunbathing (29 percent each).

Facilities were constructed with California State Department of Boating and Waterways grant funding obtained by the FS. For many years California State Parks has operated and maintained these facilities.

The raft launch is down a steep earthen slope to an eddy that has little space. A slide ramp would enhance the ability to launch water craft. Use figures gathered by State Parks for 2010 indicates that there were 17,262 commercial clients that put in at this launch facility. This was lower use year than five years ago when the reported usage was nearly 30,000 people. Typically the majority of commercial boating is conducted over a five-month period from May to September; the majority of this use occurs in a small time frame after arriving on site and prior to launching. Toilet facilities are overwhelmed. Modifying the existing toilets, to meet peak use will prevent sanitation issues from continuing to arise. There are issues with the toilets venting, this may be because of their location in proximity to shade. If shade is not determined to be the issue, installation of ventilation systems would improve the facility.

This area is within the FERC boundary, and the lands within the FERC boundary were determined by BLM on April 8, 2005 to be within a Federal Power Project withdrawn area. This, in simplified terms, means that the lands cannot be entered, selected, or located for mineral entry. Yet the public frequently mines in the area often leading PCWA Power Division managers to ask the FS to take action. Posting the area with appropriate regulation to notify the public that the area is not available for mining would educate the public and provide the FS the tools necessary to take enforcement action if it were necessary.

Parking and commercial rafting transportation drop-off for the site is on a sediment augmentation pile. This sediment is meant to be released downstream during high flow events. Camping tends to interfere with commercial rafting transportation and so is not tolerated during the height of rafting season. Signs need to be installed saying no overnight camping April through September. However the area is available for camping (not to exceed 14 days maximum by TNF Forest Order) October through March, and signage should represent this recreation opportunity.

There is an opportunity to utilize the Ralston Afterbay Overflow Parking area as a unique day use area and for parking. Providing shade armadas over two picnic tables would provide year round comfort on this rather hot area that overlooks the river.

Cache Rock River Access Area

This site is located on National Forest System lands (ENF). There are no facilities at this site at present, although there are 10 designated primitive camping areas. The area is used as a lunch stop by whitewater boaters (PCWA REC-1 TSR, 2010) and by individuals accessing the river via the 4WD access road (Forest Road 14N35A) to fish and participate in other water-based recreation activities. At this time, there is no public right of way across the private land located south of the Cache Rock River Access Area; however the FS is currently working with the private landowner to acquire public access. The measures identified provide for reasonable public access, sanitation and necessary resource protection.

Dardanelles Creek

This site is used as a lunch stop by whitewater boaters on the Tunnel Chute run, including commercial whitewater outfitter trips. Repeated use of this site by large groups of rafters can lead to problems with human waste. To address this problem and past concerns regarding the environmental impact of human waste associated with whitewater use, CDPR has installed composting toilets at several sites along the Middle Fork of the American River. Currently there are composting toilets at Upper and Lower Fords Bar and Canyon Creek. Installing a composting toilet at this site, Dardanelles Creek, would help reduce impacts from human waste by whitewater boaters. The facility would need to be located, designed and constructed to be consistent with the ORVs identified in the Wild and Scenic River Eligibility Study and determination for this section of river.

There are historic mining resources located at this site and interpretive signing would serve to protect these resources and enhance the visitor experience.

San Francisco Bar

This site is used as a lunch stop and occasionally as an overnight camping stop by whitewater boaters on the Tunnel Chute Run, including commercial whitewater outfitter trips. Repeated use of this site by large groups of rafters can lead to problems with human waste. To address this problem and past concerns regarding the environmental impact of human waste associated with whitewater use, CDPR has installed composting toilets at several sites along the Middle Fork of the American River. Currently there are composting toilets at Upper and Lower Fords Bar and Canyon Creek. Installing a composting toilet at this site, San Francisco Bar, would help reduce impacts from human waste by whitewater boaters. The facility would need to be located, designed and constructed to be consistent with the ORVs identified in the Wild and Scenic River Eligibility Study and determination for this section of river.

Information and interpretive signing at this site would serve to help protect natural and cultural resources at the site and enhance the visitor experience.

Fords Bar (Upper and Lower Fords Bar)

These sites are used as a lunch stop or overnight camping (by permit) location by whitewater users. There is no public vehicle access to the site. Existing facilities include Facilities include two double composting toilets. The composting toilets were installed specifically to address past human waste issues at this site as a result of whitewater boating use. No additional improvements are proposed for this site at this time.

Canyon Creek

Whitewater boaters use this site as a stop on the Tunnel Chute Run. Until just recently there was a composting toilet at this site specifically installed to serve whitewater boating use. In August 2010 the composting toilet was destroyed in a wildfire. CDPR and BLM intend to replace this

composting toilet through funding from the California Department of Boating and Waterways. If this funding source does not materialize to replace this composting toilet, the agencies would like the licensee to replace this facility which almost exclusively serves flow related recreation use and helps prevent human waste problems from this use. The facility would need to be located, designed and constructed to be consistent with the ORVs identified in the Wild and Scenic River Eligibility Study and determination for this section of river.

A simple constructed trail is needed from the river beach/landing area to the restroom in order to prevent multiple user created trails from developing.

Information and interpretive signing at this site would serve to help protect natural and cultural resources at the site and enhance the visitor experience.

Ruck-a-Chucky/Greenwood

Parking is limited at this location and the available parking areas at this site fill to capacity during some peak use periods. There are constraints on the amount of additional parking that can be provided, however creating some additional parking is possible and would benefit flow related recreation use, including fishing and whitewater boating. Information and interpretive signing at this site would serve to help protect natural and cultural resources at the site and enhance the visitor experience. Additionally there are repairs and improvements that need to be made to the existing portage trail around Ruck-a-Chucky rapid. These new facilities would need to be located, designed and constructed to be consistent with the ORVs identified in the Wild and Scenic River Eligibility Study and determination for this section of river.

Cherokee Bar

This site is accessible by vehicle and is primarily used for day use including flow-related uses such as fishing. The area is available for overnight camping by whitewater boaters by permit. A precast concrete vault toilet would help prevent human waste problems associated with this use.

Poverty Bar

This site is used occasionally as an overnight camping location by whitewater boaters (by permit). If use of this site increases, a composting toilet may be a necessary improvement at this location in the future to address potential human waste issues.

Mammoth Bar

The majority of the use at Mammoth Bar is off highway vehicle use. However the area is used as a river access point and the take out for the Mammoth Bar run. There is an existing rough and undeveloped parking area near the river bar that serves whitewater boating use. Improving and expanding this existing parking area would help to better serve whitewater boaters and anglers. Information and interpretive signing at this site would serve to help protect natural and cultural resources at the site, provide a venue to communicate about changing river levels and flows and enhance the visitor experience.

Murderer's Bar

This is the site of a Class V-VI rapid that is portaged by most users. Currently there is no constructed portage trail, only user created trails. Depending on the use of this run in the future, a portage trail may be a desired future improvement.

Confluence

The Confluence of the MFAR and North Fork American River is the most heavily used recreation site within Auburn SRA. The most popular activities include swimming and sunbathing, and the site serves as the put-in for the China Bar run. The area also serves trail users, anglers, and other types of recreation use. During the primary recreation season (April-September) CDPR estimates 60-70 percent of the use at this site is river-related recreation. During the off season this figure is 30-40 percent. Existing facilities at the site includes a new double precast concrete vault toilet installed in the Fall of 2010 and informal parking along Old Foresthill Road.

A second double precast concrete vault toilet is needed at the site to serve the amount of use that occurs at the site and to help prevent human waste problems associated with this use.

Formalizing and improving the roadside parking, to the extent feasible, would better serve the existing use at the site and could make the site safer for pedestrian traffic along and crossing the roadway.

Information and interpretive signing at this site would serve to help protect natural and cultural resources at the site, provide a venue to communicate about changing river levels and flows and enhance the visitor experience.

A designated access trail for boaters is needed at this site for several reasons. As noted elsewhere in this document, including below, CDPR anticipates that the China Bar run could become a very popular river boating opportunity due to the ease of road access from Highway 49 and the Class II rapids which will attract a wide range of boaters. Providing a designated trail for river boating access will help prevent conflicts with the large amount of swimming and sunbathing use which dominates the river gravel bar during the peak season. This new river access trail would be built to provide access to the river below the Highway 49 rapid which can be problematic for inexperienced boaters.

Quarry Trailhead and River Access

This location provides trail access to the Quarry Trail but also provides river access for anglers, swimmers, and sunbathers to Murderer's Bar and beyond. CDPR estimates 25 percent of the use at this location is river-related. Facilities include a dirt/gravel parking lot for 20-25 vehicles, portable chemical toilet, interpretive panels, picnic tables and trash containers.

China Bar

The China Bar run was opened to public use in January 2008 with the closure of the Auburn Dam diversion tunnel and the development of the PCWA American River Pump Station which included returning the river to its historic channel and providing a whitewater bypass channel of the pump station. The China Bar run slowly gained popularity in the first two seasons of use (2008-2009) that this stretch has been available. This Class 2 run is very close to the City of Auburn and highly accessible via Highway 49. CDPR expects this run to become very popular in the future. Recreation uses of this site include whitewater boating, trail use and fishing. CDPR estimates that approximately sixty percent of the current use in the area is whitewater boating, fishing or other flow dependent recreation.

The existing facilities in this area include an entrance station off Maidu Drive, a fifty-vehicle paved parking lot, a precast concrete vault toilet, two turn-around river access points for equipment drop off and pick up, gates, signs and trash containers. The configuration of these facilities makes river access somewhat difficult as the parking area is approximately 1/3 of a mile from the two river access turn-around areas. Whitewater boaters must hike this distance from the river to retrieve vehicles. Also, this river run has the potential to become popular in the future and use would exceed the available parking.

Developing additional river access facilities at this site, as described in the agency recreation plan, would better serve existing users and accommodate future increased use. The best physical location for additional and expanded facilities is on the inside bend of the river (the south or El Dorado County side of the river) which has a large flat that was filled and graded as part of the American River Pump Station Project. Existing roads, currently not available to public use, already connect this flat to Highway 49 near the town of Cool.

The bypass channel for the American river Pump Station was designed to be navigated by and attractive to whitewater boaters. It is CDPR understanding that the channel was designed to be optimal for whitewater use at flows between 800 cfs and 2500 cfs. As noted by participants surveys in the whitewater recreation flow studies, this channel in particular was rocky and difficult at the lower study flows (368 and 600 cfs). If it is possible to modify the channel, or a portion of the channel, to make it more attractive to both whitewater play boaters and casual down river users at lower flows this would better serve the users at the range of flows most likely to be experienced in the primary summer use season.

Rationale for Heavy Maintenance

Heavy maintenance and rehabilitation are necessary to keep existing FS, BLM, Reclamation, and CDPR facilities in serviceable condition to meet health and safety requirements and other public needs. Heavy maintenance and rehabilitation include components of recreation facilities such as water systems, traffic control barriers, roads, spurs, and associated drainage structures, grills and fire rings, picnic tables, toilets, and signboards. Long-term and heavy maintenance includes: but is not limited to, repairing, re-surfacing and re-striping paved areas, replacing culverts and other heavy maintenance along access roads, re-roofing and painting buildings, replacing picnic tables and other accessory structures, and replacing the composting unit on the composting toilets. As described in the Review of Recreation Developments section above, the necessary maintenance, rehabilitation, and reconstruction will be determined through a periodic review of the facilities

the resource agencies and licensees. These reviews will determine the necessary work, based on facility condition and other factors at the time. Data from ongoing monitoring will assist in making needed changes in the work schedule and in future planning.

Rationale for Recreation Operation, Maintenance, and Administration Measures

Within the MFAR Project, the licensee’s role in facility and infrastructure development has substantially modified the visitation within the area. As described in the Rationale for Specific Recreation Measures, below, the licensee is responsible for most of the recreation development within the MFAR Project Area or for providing the instream flows that have created or augmented the recreation opportunities. As such, providing for the operation and maintenance on these facilities and areas is a critical aspect of their recreation program.

As previously described in the Rationale for Specific Recreation Measures, the developed recreation facilities are either operated by a concessionaire under a permit, or directly by the FS, BLM, Reclamation or CDPR. There are numerous reasons for this management strategy, some of which include: (a) there are operational flexibilities attained by both the concessionaire and the respective agency by operating the facilities under the current strategy; (b) the diversity in operational flexibilities attained by both the concessionaire and the FS by operating the facilities under the current strategy; (b) the diversity in managing authority allows for better reactions to changing budgets, personnel, and regulations; (c) the smaller facilities often cost more to operate than the revenues that can be developed at the site, making them unattractive to concessionaires (conversely, the largest facilities are operated by concessionaires because they have highest revenue earning opportunities); (d) the Service Contract Act (2004) precludes concessionaires from operating sites where fees are not charged (and there are a number of facilities in the MFAR Project area that are deemed to be important as either free and/or low fee sites); and (e) having uniformed FS presence would be required for public contact and visitor management, regardless of the number of concession operated facilities.

Actual operation and maintenance of the various licensee developed sites is generally conducted by seasonal staff. In addition, individual facilities and adjacent use areas are “lumped” into discrete geographic areas that serve as individual “patrol” units. This provides the most efficient means of managing the recreation at and between recreation facilities along the reservoirs and river reaches. The following section has been organized to follow this management strategy, and each individual “unit” is separately described. The total annual cost associated with the operation and maintenance of the MFAR Project related recreation is \$ 801,695.27. The Forest Service costs are summarized by site in the table below. BLM and Reclamation annual operation and maintenances costs are summarized in a table on page 56 of this document.

Summary of FS O&M and Administration Cost Spreadsheet (MFAR Relicensing)	
Area	Total
French Meadows Area	\$62,286.17

Hell Hole Area	\$159,436.20
Long Canyon Area	\$47,827.29
Duncan Canyon Area	\$14,094.12
Ralston Afterbay and Indian Bar Areas	\$72,375.09
Cache Rock Area	\$4,719.54
Rubicon River Area	\$4,512.48
<i>Subtotal</i>	<i>\$365,250.83</i>
Administration	\$169,649.97
Total (rounded):	\$535,000.00

Hell Hole Recreation Area

The Hell Hole recreation facilities are operated and managed by the FS. The facilities were originally constructed by the licensee with no funds provided for operation and maintenance of these facilities. More recently, the licensee has been providing funding for necessary operation and maintenance of the recreation facilities (PCWA, 2006). The operation, maintenance, and administration costs are directly a result of the licensee's recreation development. On-site operations and maintenance by seasonal and permanent FS staff is required to meet health and safety standards, maintenance standards, and to ensure recreation visitors are having a quality experience and not impacting resources.

Cost: The costs are to manage for the recreation use at the recreation facilities around Hell Hole Reservoir and generally within ¼ mile of the reservoir. For this area, these funds would be utilized to conduct patrols, pick up litter, provide public information, enforce rules and regulations, rehabilitate impacted areas, address sanitation, maintain day use sites (such as concentrated use areas), respond to fires and other emergencies, assist in search and rescue, conduct facility maintenance at those recreation facilities not operated by the concessionaire, and maintain the access trails to various recreation sites in order to meet existing maintenance standards. Campground Host services are needed to provide visitor information and better visitor management. The campground host will be located at Big Meadows campground, although this host may be utilized at other campgrounds around Hell Hole Reservoir or at the facilities around French Meadows Reservoir during the post-Labor Day season. The method of providing for this service (direct employment, service contract, etc.) will be determined in consultation with the licensee. There are regular costs associated with the maintenance of these

facilities, as identified in the “fixed cost” portion of the spreadsheet below. In addition to the facility maintenance, there will be shoreline cleanup and resource protection measures within and immediately adjacent to the reservoirs. The following estimate shows the cost to manage for these visitors and the impacts from their visits.

O + M Cost Spreadsheet (MFAR Relicensing)

Area: Hell Hole Area

Personnel:	Days	CTG*/Day	Total
Recreation Technician (GS-5)	120	\$162.00	\$19,440.00
Recreation Technician (GS-5)	120	\$162.00	\$19,440.00
Recreation Technician (GS-4)	62	\$150.00	\$9,300.00
Recreation Technician (GS-5)	64	\$162.00	\$10,368.00
Recreation Technician (GS-5) (public contact, cour	60	\$162.00	\$9,720.00
Maintenance Technician (GS-7)	40	\$193.00	\$7,720.00
Recreation Manager (GS-9)	80	\$240.00	\$19,200.00
Resource Officer (GS-11)	0	\$350.00	\$0.00
Resource Business Manager (GS-7)	5	\$193.00	\$965.00
Resource Specialists (GS-9)(Heritage @5 days, Botany @ 2 days, Interp @6 days)	13	\$240.00	\$3,120.00
Resource Specialist (GS-11)(Wildlife@2 days)	2	\$350.00	\$700.00
Campground Host	Season		xxx
<i>Subtotal</i>			\$99,973.00
Vehicles:	Months	miles	Total
Recreation Patrol (2848)	8	12,000	\$9,640.00
Maintenance Technician (0707)	3	6,000	\$3,456.00
Recreation Manager (5554)	3	3,000	\$2,685.00
Recreation Officer (3780)	1	1,000	\$602.00
Resource Specialists (1592)	3	1,000	\$1,224.00
<i>Subtotal</i>			\$17,607.00
Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas).			
Boat replacement @\$28,000 over 10 years (not included in total costs)			\$2,800.00
Project Supplies, Materials and Contracts:			Total
Paint, supplies, cleaning supplies, tools, materials			\$4,500.00
Signs, posts, etc			\$1,000.00
uniforms			\$500.00
garbage			\$3,000.00
toilet pumping			\$2,500.00
water permits			\$1,200.00
water testing (\$18/sample 10 samples/season)			\$200.00
Equipment maintenance (power washer, generator, etc.			\$1,000.00
Boat maintenance and fuel			\$2,500.00
<i>Subtotal</i>			\$16,400.00
Sub-Total:			\$133,980.00
Overhead (19%):			\$25,456.20
Total:			\$159,436.20

CTG = Cost to Government (2010 costs)

Fre

nch Meadows Recreation Area

The French Meadows recreation facilities are managed by the FS, although direct operation and maintenance of most of the facilities are conducted by a concessionaire. The facilities were originally constructed by the licensee with no funds provided for operation and maintenance of these facilities. More recently, the licensee has been providing funding for administration of the concessionaire permit and other necessary operation and maintenance of the recreation facilities (PCWA, 2006). The operation, maintenance, and administration costs are directly a result of the licensee's recreation development. For the facilities not operated under a concession permit, onsite operations and maintenance by seasonal and permanent FS staff is required to meet health and safety standards, maintenance standards, and to ensure recreation visitors are having a quality experience and not impacting resources.

Cost: The costs are to manage for the recreation use at the recreation facilities around French Meadows Reservoir and generally within ¼ mile of the reservoir. For this area, these funds would be utilized to conduct patrols, pick up litter, provide public information, enforce rules and regulations, rehabilitate impacted areas, address sanitation, maintain day use sites (such as concentrated use areas), respond to fires and other emergencies, assist in search and rescue, administer the concessionaire special use permit, install signs, fall hazard trees, reduce fuels buildups, fire prevention, and repair or assist in repairs of waterlines, , and conduct facility maintenance at those recreation facilities not operated by the concessionaire to meet existing maintenance standards. There are regular costs associated with the maintenance of these facilities, as identified in the "fixed cost" portion of the spreadsheet below. In addition to the facility maintenance, there will be shoreline cleanup and resource protection measures within and immediately adjacent to the reservoirs. The following estimate shows the cost to manage for these visitors and the impacts from their visits.

O + M Cost Spreadsheet (MFAR Relicensing)

Area: French Meadows Area

Personnel:	Days	CTG*/Day	Total
Recreation Technician (GS-5)	20	\$150.00	\$3,000.00
Maintenance Technician (GS-9)	20	\$300.00	\$6,000.00
Recreation Officer (GS-9)	30	\$300.00	\$9,000.00
Resource Officer (GS-11)	5	\$340.00	\$1,700.00
Fire Prev Tech/Patrol (GS-7)(fire season)	14	\$314.38	\$4,401.32
Resource Specialists (GS-9)(Heritage @5 days, Botany @ 2 days, Interp @6 days)	13	\$280.00	\$3,640.00
Resource Specialist (GS-11)(Wildlife@2 days)	2	\$350.00	\$700.00
Resource Improvement Crew (i.e. maintain fuel breaks around rec a	10	\$1,500.00	\$15,000.00
<i>Subtotal</i>			\$43,441.32
Vehicles:	Months	miles	Total
<i>Subtotal</i>			\$0.00
Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas).			
All vehicles use and FOR addressed in Admin			
Project Supplies, Materials and Contracts:			Total
bulletin boards, posters, plumbing, etc.			\$4,000.00
Signs, posts, etc			\$1,000.00
Equipment maintenance (generator for water systems)			\$1,800.00
Propane for water system generators			\$1,600.00
Concessionaire use of storage bay at Admin Site see below:			
Equipment maintenance (generator for power)			\$500.00
<i>Subtotal</i>			\$8,900.00
Sub-Total:			\$52,341.32
Overhead (19%):			\$9,944.85
Total:			\$62,286.17
CTG = Cost to Government (2010 costs)			

Duncan Canyon Concentrated Dispersed Use Area

This concentrated dispersed use areas is accessed by a project road that leads to a project facility at the Duncan Diversion Dam and has been managed by the FS. More recently, the licensee has been providing funding for necessary operation and maintenance of the recreation facilities (PCWA, 2006). The operation, maintenance, and administration costs are directly a result of the licensee's project development. On-site operations and maintenance by seasonal and permanent FS staff is required to meet health and safety standards, maintenance standards, and to ensure recreation visitors are having a quality experience and not impacting resources.

Cost: The costs are to manage for the recreation use at the recreation facilities in the Duncan Diversion Dam area. For this area, these funds would be utilized to conduct patrols, pick up litter, provide public information, conduct facility maintenance, enforce rules and regulations, rehabilitate impacted areas, address sanitation, maintain use areas, respond to visitor-caused fires and other emergencies, remove hazards, and assist in search and rescue. The following estimate shows the cost to manage for these visitors and the impacts from their visits.

O + M Cost Spreadsheet (MFAR Relicensing)			
Area: <u>Duncan Canyon</u>			
Personnel:	Days	CTG*/Day	Total
Fire Prev Tech/Patol (GS-7)	10	\$314.38	\$3,143.80
Recreation Officer (GS-9)fill in as needed, supervision of GS5	10	\$300.00	\$3,000.00
Recreation Technician (GS-5)(mid May-late Oct) <i>est Duncan open-no snow-24 weeks/year</i>	20	\$150.00	\$3,000.00
<i>Subtotal</i>			\$9,143.80
Vehicles:	Months	miles	Total
Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas). All vehicles use and FOR addressed in Admin			
Project Supplies, Materials and Contracts:			Total
bulletin boards, posters, cleaning supplies, etc.			\$1,000.00
Signs, posts, etc			\$300.00
garbage*			
toilet pumping			\$1,200.00
equipment maintenance (power washer, etc)			\$200.00
garbage* cost is lumped with Ralston and Indian Bar			
<i>Subtotal</i>			\$2,700.00
Sub-Total:			\$11,843.80
Overhead (19%):			\$2,250.32
Total:			\$14,094.12
CTG = Cost to Government (2010 costs)			

Long Canyon Recreation Area

The Long Canyon recreation facilities are operated and managed by the FS. These facilities consist of the Middle Meadows Group Campground and various concentrated use areas adjacent to or accessed by project roads and facilities. The facilities were originally constructed by the licensee with no funds provided for operation and maintenance of these facilities. More recently, the licensee has been providing funding for necessary operation and maintenance of the

recreation facilities (PCWA, 2006). The operation, maintenance, and administration costs are directly a result of the licensee's recreation development and project development. On-site operations and maintenance by seasonal and permanent FS staff is required to meet health and safety standards, maintenance standards, and to ensure recreation visitors are having a quality experience and not impacting resources.

Cost: The costs are to manage for the recreation use at the recreation facilities in the Long Canyon Recreation area. For this area, these funds would be utilized to conduct patrols, pick up litter, provide public information, conduct facility maintenance, enforce rules and regulations, rehabilitate impacted areas, address sanitation, maintain day use sites (such as concentrated use areas), respond to visitor-caused fires and other emergencies, and assist in search and rescue. The following estimate shows the cost to manage for these visitors and the impacts from their visits.

O + M Cost Spreadsheet (MFAR Relicensing)			
Area: Long Canyon Area (including Middle Meadow CG)			
Personnel:	Days	CTG*/Day	Total
Recreation Technician (GS-5) (public contact, CG maint, patrols)	100	\$162.00	\$16,200.00
Recreation Technician (GS-4)	6	\$150.00	\$900.00
Recreation Technician (GS-5)	2	\$162.00	\$324.00
Maintenance Technician (GS-7)	20	\$193.00	\$3,860.00
Recreation Manager (GS-9)	20	\$240.00	\$4,800.00
Resource Officer (GS-11)	0	\$350.00	\$0.00
<i>Subtotal</i>			<i>\$26,084.00</i>
Vehicles:	Months	miles	Total
Recreation Patrol (2848)	0	0	\$0.00
Maintenance Technician (0707)	5	9,000	\$5,310.00
Recreation Manager (5554)	1	1,000	\$895.00
Recreation Officer (3780)	1	1,000	\$602.00
Resource Specialists (1592)	0	0	\$0.00
<i>Subtotal</i>			<i>\$6,807.00</i>
Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas).			
Project Supplies, Materials and Contracts:			Total
Paint, supplies, cleaning supplies, tools, materials			\$2,000.00
Signs, posts, etc			\$300.00
uniforms			\$200.00
garbage			\$2,000.00
toilet pumping			\$1,000.00
water permits			\$1,200.00
water testing (\$18/sample 10 samples/season)			\$200.00
Equipment maintenance (power washer, generator, etc.			\$400.00
<i>Subtotal</i>			<i>\$7,300.00</i>
Sub-Total:			\$40,191.00
Overhead (19%):			\$7,636.29
Total:			\$47,827.29
CTG = Cost to Government (2010 costs)			

Rubicon River Recreation Area

The Rubicon River recreation area does not include any developed recreation facilities at this time, although there is public use at this time (based on observations by FS staff and comments from the public (PCWA REC-4 TSR, 2010). The Ellicott’s Bridge River Access site provides the primary access to the Rubicon River between Hell Hole Reservoir and Ralston Afterbay. This site is used by anglers and other water-based recreationists using this bypass reach of the Rubicon River. At this time, the FS provides clean-up and visitor management at the concentrated use areas within the Rubicon River area. The operation, maintenance, and administration costs are a result of the licensee’s recreation developments in the Hell Hole and French Meadows area as well as improved access to the area. In addition, the project flows have increased fish population and improved angling opportunities through higher summer flows and colder summer water temperatures, An appropriate level of on-site operations and maintenance by seasonal and permanent FS staff is required to meet health and safety standards, maintenance standards, and to ensure recreation visitors are having a quality experience and not impacting resources.

Cost: The costs are to manage for the recreation use within the concentrated use area at the Ellicott’s Bridge river access point in the Rubicon River Recreation area. For this area, these funds would be utilized to conduct weekly patrols, pick up litter, provide public information, enforce rules and regulations, rehabilitate impacted areas, address sanitation, respond to visitor-caused fires and other emergencies, and assist in search and rescue. Following construction of the Ellicott’s Bridge River Access facility, there will be a need to adjust the operation and maintenance costs to include the cost for toilet pumping, toilet cleaning, signboard maintenance, and other associated costs. The following estimate shows the cost to manage for these visitors and the impacts from their visits.

O + M Cost Spreadsheet (MFAR Relicensing)			
Area: Rubicon Area (including Ellicott's)			
Personnel:	Days	CTG*/Day	Total
Recreation Technician (GS-5) (public contact, site maintenance, patrols)	16	\$162.00	\$2,592.00
Recreation Manager (GS-9) fill in and respond to needs	5	\$240.00	\$1,200.00
<i>Subtotal</i>			\$3,792.00
Vehicles:	Months	miles	Total
Vehicle costs incidental to vehicle costs for Hell Hole and Long Canyon Areas			

Subtotal \$0.00

Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas).

Project Supplies, Materials and Contracts:	Total
<i>Subtotal</i>	\$0.00
Sub-Total:	\$3,792.00
Overhead (19%):	\$720.48
Total:	\$4,512.48

CTG = Cost to Government (2010 costs)

Ralston Picnic Area and Car Top Boat Ramp

This picnic area is located on the Middle Fork American River near the junction of the Ralston Afterbay, close to the Ralston Afterbay sediment Removal Access Point. The area is accessed by Forest Roads that also access other Project facilities and recreation areas. The licensee provides funding to the FS to operate and maintain the recreation facilities. The operation, maintenance, and administration costs are directly a result of the licensee’s project development. On-site operations and maintenance by seasonal and permanent FS staff is required to meet health and safety standards, maintenance standards, and to ensure recreation visitors are having a quality experience and not impacting resources.

Cost: Funds provided by the are, and would continue to be utilized to conduct patrols, pick up litter, provide public information, conduct facility maintenance, reduce fuels, enforce rules and regulations, rehabilitate impacted areas, address sanitation, maintain use areas, fire prevention, respond to visitor-caused fires and other emergencies, remove hazards, and assist in search and rescue. The estimate shows the cost to manage for these visitors and the impacts from their visits.

<u>Operation and Maintenance Cost Spreadsheet (MFP Relicensing)</u>			
Area: Ralston and Indian Bar Areas			
Personnel:	Days	CTG*/Day	Total
Fire PrevTech/Patrol (GS-7)	30	\$314.38	\$9,431.40
Recreation Officer (GS-9) off season and patrol	30	\$300.00	\$9,000.00
Recreation Technician (GS-5)(mid April to mid May)	4	\$150.00	\$600.00
<i>Ralston serviced at same time as Duncan for 20 wk/yr</i>			
<i>Days for Ralston are in addition to those for Duncan before access</i>			
State Park Aides (Jim Micheaels input)	160	\$137.00	\$21,920.00

<i>Subtotal</i>				\$40,951.40
	Vehicles:	Months	miles	Total
	FS Rec Officer/tech mileage (30 x 34days at .45/mi)			\$510.00
	State Park Ranger/LE Patrol (40miles x60 trips 2400 mi at .50/mi)			\$1,200.00
	Maintenance (30mi x 200 trips = 6000)			\$3,000.00
	FPT mileage (30x30 days at .62/mi)			558
	<i>Subtotal</i>			\$5,268.00
Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas). All vehicles use and FOR addressed in Admin				
	Project Supplies, Materials and Contracts:			Total
	pump Ralston and Indian Bar Toilets (6 total)			\$6,000.00
	garbage* cost is lumped with Duncan - dumpster rental			\$1,500.00
	bulletin boards, posters, cleaning supplies, etc.			\$3,000.00
	Signs, posts, etc			\$500.00
	equipment maintenance (power washer, etc)			\$200.00
	develop written MOU with State Parks and BLM GS-11 10 days			\$3,400.00
	<i>Subtotal</i>			\$14,600.00
	Sub-Total:			\$60,819.40
	Overhead (19%):			\$11,555.69
	Total:			\$72,375.09

CTG = Cost to Government (2010 costs)

Administration

The recreational use and demand within the MFAR Project area and generated by the MFAR project facilities and operations, as described above, has also lead to the need for the various land management agencies to provide administrative oversight of the public recreation services being provided. These oversight duties include, but are not limited to such tasks as program development and oversight, planning and budgeting, hiring and supervision, relevant correspondence, prospectus development, concessionaire permit administration, coordination and review of reservation system input, review and coordination of recreation use monitoring efforts and results, reporting and record keeping, fee collection oversight and audits, coordination with FERC and PCWA, etc, The following estimate shows the cost to provide for the administrative oversight associated with management of the recreation use.

Administration Cost Spreadsheet (MFAR Relicensing)			
Eldorado National Forest			
Personnel:	Days	CTG*/Day	Total
Resource Officer (GS-11)	60	\$350.00	\$21,000.00
Recreation Manager (GS-9)	40	\$240.00	\$9,600.00

District Admin Support	10	\$240.00	\$2,400.00
Forest Recreation Officer (GS-12)	20	\$436.00	\$8,720.00
Landscape Architect	20	\$413.00	\$8,260.00
Admin Assistant	10	\$320.00	\$3,200.00
<i>Subtotal</i>			\$53,180.00

Vehicles:	Months	miles	Total
Recreation Patrol (2848)	0	0	\$0.00
Maintenance Technician (0707)	0	0	\$0.00
Recreation Manager (5554)			\$0.00
Recreation Officer (3780)	3	3,000	\$1,806.00
Landscape Architect (2094)	1	2,000	\$908.00
<i>Subtotal</i>			\$2,714.00

Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas).

Project Supplies, Materials and Contracts:	Total
Testing	\$500.00
Lump Sum Payments (seasonals)	\$2,400.00
uniforms	\$300.00
TOS (\$30,000/6 yrs)	\$5,000.00
OWCP	\$0.00
Unemployment (\$2,300/seasonal; 6 seasonals)	\$13,800.00
<i>Subtotal</i>	\$22,000.00
Sub-Total:	\$77,894.00
Overhead (19%):	\$14,799.86
Total:	\$92,693.86

Administration Cost Spreadsheet (MFAR Relicensing) Tahoe National Forest

Personnel:	Days	CTG*/Day	Total
Resource Officer (GS-11)	25	\$340.00	\$8,500.00
Recreation Officer (GS-9)	45	\$300.00	\$13,500.00
District Admin Support (GS-7)	30	\$252.00	\$7,560.00
Forest Recreation Officer (GS-12)	10	\$436.00	\$4,360.00
Landscape Architect/Facility Engineer/COR	10	\$413.00	\$4,130.00
Admin Assistant (GS-5)(public service @ FHRS)	30	\$215.00	\$6,450.00

Law Enforcement Officer (GS-9)	20	\$320.00	\$6,400.00
<i>Subtotal</i>			<i>\$50,900.00</i>
Vehicles:	Months	miles	Total
Recreation Patrol (FPT)	1	2,000	\$1,515.00
Recreation Officer (1401)	5	8,000	\$4,900.00
Rec Tech (0866)	2	3,000	\$1,854.00
<i>Subtotal</i>			<i>\$8,269.00</i>

Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas).

Project Supplies, Materials and Contracts:	Total
uniforms	\$500.00
Transfer Station for new staff proj associated (\$30,000/6 yrs)	\$5,000.00
<i>Subtotal</i>	<i>\$5,500.00</i>
Sub-Total:	\$64,669.00
Overhead (19%):	\$12,287.11
Total:	\$76,956.11

The Tahoe National Forest is requesting 20 days of funding for a uniformed Forest Service Law Enforcement Officer (LEO). In addition to the technical training and skills required for a LEO, by FS policy all violation notices and incident reports written by a Forest Protection Officer (FPO) must be processed by a LEO within 10 days. FPOs do the majority of patrol on National Forest lands.

The Final LAND-3 (March 2010) Table E-4 (Summary of 2006 and 2007 USDA-FS TNF Emergency Incident Responses at MFP Facilities, in the Vicinity of the MFP, or in the Vicinity of the Peaking Reach) indicates 21 law enforcement responses. Table E-5 (Summary of 2006 and 2007 USDA-FS TNF Emergency Incident Responses) indicates 37 law enforcement responses. Each response requires an incident report. Table E-6 indicates a total of 3 accidents. Regardless of who responds to the accident, if it occurred on National Forest lands it requires interagency cooperation, an accident investigation conducted by the FS (most likely a LEO) and an incident report. Other tables in LAND 3 (Tables E-7 and E-8) indicate Placer County Sherriff actions regarding Missing Persons, Search and Rescue, Agency Assist (in likely hood to the FS), Like accident these also require interagency interaction, sometimes investigation, and always an incident report. Many violation notices written by FPOs end with a court appearance to assist the US Attorney and substantiate the public's case. This requires LEO interaction as well.

Middle Fork American River (Peaking Reach) Recreation Area

The annual operation and maintenance costs associated with the facilities which support flow related recreation along the peaking reach of the MFAR Project are detailed site by site below. This ongoing annual program of maintenance, operation and administration is required to meet

agency standards for facilities and visitor use and to safely manage these areas for the whitewater recreation and other flow related use that occurs along the peaking reach largely as a result of the altered flows produced by the MFAR Project.

Indian Bar River Access

This site is on FS land (Tahoe NF), however CDPR largely operates and maintains these facilities, including pumping the vault toilets, while the FS patrols and responds to uses at the beach area below the Ralston Afterbay Dam as well as ‘off-season’ uses in the area. This site serves as the put-in for the Tunnel Chutes whitewater run. While whitewater boating is the primary use of this site, a beach area that is along the channel (3 cfs) from the dam to the confluence with the channel from the powerhouse is also attractive to swimmers and sunbathers. Since the release down this channel is controlled by the Project and is very low, this is an instance where swimming and sunbathing are a flow-dependent recreation activity.

Existing improvements and facilities at this site include:

- 5 pre-cast concrete vault toilets;
- 2 parking lots (approximately 50 vehicles)
- ramp/path to river
- signs
- 3 information kiosks
- trash containers

During the primary whitewater boating season, from April through September, seasonal park aides are on site at Indian Bar six hours per day (including travel) six days per week. Park aides are monitoring commercial boating activity, maintaining the restrooms and other facilities and managing the parking and traffic. CDPR pumps the vault toilets at Indian Bar two times during the season which involves six days of park maintenance worker time. In addition to routine cleaning and maintenance, there is extra time involved in addressing illegal campfires and vandalism. The operation and maintenance cost of Indian Bar is contained in the Ralston and Indian Bar Area table under Ralston Picnic Area and Car Top Boat Ramp.

Cache Rock River Access

The Cache Rock River Access area does not include any developed recreation facilities at this time, although there are 10 designated primitive camping areas. The area is used as a lunch stop by whitewater boaters (PCWA REC-1 TSR, 2010) and by individuals accessing the river via the 4WD access road (Forest Road 14N35A) to fish and participate in other water-based recreation activities (based on observations by FS staff and comments from the public (PCWA REC-4 TSR, 2010). At this time, there is no public right of way across the private land located south of the Cache Rock River Access Area; however the FS is currently working with the private landowner to acquire public access. At this time, the FS provides clean-up and visitor management at the Cache Rock River Access Area. The operation, maintenance, and administration costs are a result of the licensee’s project operations and serve recreational use of project flows. An appropriate level of on-site operations and maintenance by seasonal and permanent FS staff is

required to meet health and safety standards, maintenance standards, and to ensure recreation visitors are having a quality experience and not impacting resources.

Cost: The costs are to manage for the recreation use within the concentrated use area at the Cache Rock river access point. For this area, these funds would be utilized to conduct patrols, pick up litter, provide public information, enforce rules and regulations, rehabilitate impacted areas, address sanitation, respond to visitor-caused fires and other emergencies, and assist in search and rescue. The following estimate shows the cost to manage for these visitors and the impacts from their visits. At such time that the additional improvements are constructed at this site, including the parking area, toilet, etc., the operation and maintenance costs will be modified to reflect the additional costs.

Operation and Maintenance Spreadsheet (MFP Relicensing)			
Area: Cache Rock CG Area			
Personnel:	Days	CTG*/Day	Total
Recreation Technician (GS-5) (public contact, CG maint, trash pick-up, patrols)	8	\$162.00	\$1,296.00
Recreation Technician (GS-4)	4	\$150.00	\$600.00
Recreation Manager (GS-9)	2	\$240.00	\$480.00
<i>Subtotal</i>			<i>\$2,376.00</i>
Vehicles:	Months	miles	Total
Recreation Patrol (2848)	0	0	\$0.00
Maintenance Technician (0707)	0	200	\$90.00
Recreation Manager (5554)			\$0.00
Recreation Officer (3780)			\$0.00
Resource Specialists (1592)			\$0.00
<i>Subtotal</i>			<i>\$90.00</i>
Note: Fleet Vehicles require 12 months FOR (some vehicles are split between several projects/areas).			
Project Supplies, Materials and Contracts:			Total
Paint, supplies, cleaning supplies, tools, materials			\$0.00
Annual Road Maintenance			\$0.00
uniforms and safety equipment			\$1,500.00
garbage			\$0.00
toilet pumping			\$0.00
water permits			\$0.00
water testing (\$18/sample 10 samples/season)			\$0.00
Equipment maintenance (power washer, generator, etc.)			\$0.00
<i>Subtotal</i>			<i>\$1,500.00</i>
Sub-Total:			\$3,966.00
Overhead (19%):			\$753.54
Total:			\$4,719.54

CTG = Cost to Government (2010 costs)

Fords Bar River Access (Upper Ford Bar & Lower Fords Bar)

These sites are used as a lunch stop or overnight camping (by permit) location by whitewater users. There is no public vehicle access to the site. Facilities include:

- Two double composting toilets (1 Upper Fords Bar, 1 Lower Fords Bar);
- Approximately 2 miles of dirt road within ASRA used by State Parks staff to maintain the facilities.
- Steel gates and signs

The composting toilets were installed specifically to address past human waste issues at this site as a result of whitewater boating use. The facilities almost exclusively serve whitewater boaters. During the April through September time period, CDPR does cleaning and maintenance (seasonal park aides) on the composting toilets six days per week. The access road (not a public road) to Fords Bar requires annual maintenance in order retain access to service the composting toilet facilities. This involves maintenance of approximately 2 miles of road (there are two forks of the road within Auburn SRA). This annual road maintenance requires three days of heavy equipment operator (an assistant) time.

The total cost of annual operation and maintenance of this site is \$29,272.00, 100 percent of which is attributable to flow related recreation.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: Fords Bar (Upper and Lower) - BLM			
Personnel:	Days	Daily Rate	Total
State Park Ranger (patrol)	20	\$370.00	\$7,400.00
Heavy Equipment Operator (annual road maintenance)	3	\$352.00	\$1,056.00
Seasonal Park Aides (servicing and cleaning composting toilets)	95	\$137.00	\$13,015.00
Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (30 miles X 40 trips)	1200	\$0.50	\$600.00
Maintenance (30 miles X 180 trips)	5400	\$0.50	\$2,700.00
	Hours	Cost/Hr	
Heavy Equipment (grader, dozer, water truck, etc)	24	\$35.00	\$840.00
Project Supplies & Materials:			Total
Misc. Supplies, signs, etc.			\$1,000.00
Sub-Total:			\$26,611.00
Overhead (10%):			\$2,661.10
Total:			\$29,272.10

100% of use and cost attributable to flow related recreation	1	\$29,272.10
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Canyon Creek River Access

Located on the north side of the Middle Fork, opposite Canyon Creek, this site is located on BLM lands. Facilities include:

- 1 double composting toilet
- approximately 1.5 miles of dirt access road within ASRA.
- steel gates and signs

The composting toilet was installed specifically to address human waste issues at this site as a result of whitewater boating use. The facility almost exclusively serves whitewater boaters. During the April through September time period, CDPH does cleaning and maintenance (seasonal park aides) on the composting toilet 3-4 days per week. The 1.5 mile of access road from Greenwood Ruck-a-Chucky to Canyon Creek requires annual maintenance which involves five days of heavy equipment operator (and assistant) time.

The total cost of annual operation and maintenance of this site is \$16,423.00, 100 percent of which is attributable to flow related recreation.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: Canyon Creek - BLM			
Personnel:	Days	Daily Rate	Total
State Park Ranger (patrol)	10	\$370.00	\$3,700.00
Heavy Equipment Operator (grading access road)	5	\$352.00	\$1,760.00
Seasonal Park Aides (maintenance of composting toilet)	50	\$137.00	\$6,850.00
Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (2 miles X 100 trips)	200	\$0.50	\$100.00
Maintenance (2 miles X 120 trips)	240	\$0.50	\$120.00
	Hours	Cost/Hr	
Heavy Equipment (grader, dozer, water truck, etc)	40	\$35.00	\$1,400.00
Project Supplies & Materials:			Total
Misc. Supplies, signs, etc...			\$1,000.00
Sub-Total:			\$14,930.00
Overhead (10%):			\$1,493.00
Total:			\$16,423.00
100% of use and cost attributable to flow related recreation		1	\$16,423.00

Ruck-a-Chucky/Greenwood River Put-In

This is the put-in location for the Mammoth Bar run and the take-out for the Tunnel Chute run. Facilities include:

- Five campsites with picnic table and fire rings.
- Three parking areas with parking for approximately 40 vehicles total.
- Three pre-cast concrete vault toilets.
- Approximately 3 miles of Drivers Flat Road (dirt) from Foresthill Road to the Greenwood Ruck-a-Chucky site all within Auburn SRA.
- CDPR staff also regularly uses the McKeon-Ponderosa service road to access Greenwood/Ruck-a-Chucky. Approximately 3-4 miles of dirt road.
- Two gravel ramp/paths for landing/launching rafts.
- Constructed portage trail around Ruck-a-Chucky Rapid.
- Trash containers.
- Signs.
- Steel gates.

During the primary whitewater boating season, April through September, seasonal park aides conduct cleaning and maintenance on the facilities at this location seven days per week. During the off-season, this maintenance is 2-3 days per week. A CDPR ranger patrols this location every day during the primary use season. CDPR staff pumps the vault toilets at this location three times annually, which involves three days of Park Maintenance Assistant time. Drivers Flat Road, which provides public access to Greenwood/Ruck-a-Chucky (3-4 miles), requires annual maintenance, including grading and brushing, which involves 6 days of heavy equipment operator (and assistant) time. CDPR also does some annual grading and installing of additional rock at the parking areas and access ramps at this site. Additionally, the McKeon-Ponderosa service road (approximately 4 miles) provides access to this location as well and also requires annual maintenance involving 3-5 days of heavy equipment operator time. Additionally CDPR performs emergency repairs (larger slides from storm events) on these roads approximately every 3 years. The portage trail around Ruck-a-Chucky Rapid requires annual maintenance to repair high water impacts.

The total cost of annual operation and maintenance of this site is \$78,794.10. The cost attributable to flow related recreation is \$66,974.99.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: Greenwood/Ruck-a-Chucky - BLM			
Personnel:	Days	Daily Rate	Total
State Park Ranger (patrol)	70	\$370.00	\$25,900.00
Heavy Equipment Operator (grade access roads)	10	\$352.00	\$3,520.00
Park Maintenance Assistant (pump vault toilets)	3	\$242.00	\$726.00
Seasonal Park Aides (maintenance, visitor services)	185	\$137.00	\$25,345.00

Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (280 trips X 20 mi)	6000	\$0.50	\$3,000.00
Maintenance (280 trips X 20 mi)	5400	\$0.50	\$2,700.00
	Hours	Cost/Hr	
Heavy Equipment (grader, dozer, water truck, etc)	80	\$35.00	\$2,800.00
Pumper Truck	24	\$35.00	\$840.00
Disposal Fees			
	Gallons	Cost/gal	
Sewage Disposal Fees (300 gallon vault each toilet)	5400	\$0.20	\$1,080.00
	Yards	Cost/yard	
Garbage disposal fees (approx. 2 yards capacity X 30)	60	\$12.00	\$720.00
Project Supplies & Materials:			Total
Supplies, replacement signs, tables, paint, etc.			\$5,000.00
Sub-Total:			\$71,631.00
Overhead (10%):			\$7,163.10
Total:			\$78,794.10
85% of use and cost attributable to flow related recreation		0.85	\$66,974.99

Cherokee Bar

This site is located on the south side of the MFAR and is on Reclamation land, with BLM land downstream. This site formerly housed primitive campsites along the river. The area is now primarily used for day use including fishing, swimming and sunbathing. The area is available for overnight camping by whitewater river users by permit. Facilities include:

- Approximately 4 miles of the dirt Sliger Mine Road is on Auburn SRA property, which provides access to the river.
- Steel gates and signs.

While there are no facilities at this location, the site remains popular for day use river recreation including fishing, swimming and sunbathing. Whitewater boaters can camp at this location by permit. CDPR seasonal park aides conduct trash/litter pick up at this site approximately once per week during the primary season (April – September). A CDPR Ranger patrols the area once per week as well. Sliger Mine Road (approximately 4 miles within Auburn SRA) requires annual maintenance which involves three days of heavy equipment operator time.

The total cost of annual operation and maintenance of this site is \$16,264.60. The cost attributable to flow related recreation is \$1,626.46.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: Cherokee Bar - Reclamation			
Personnel:	Days	Daily Rate	Total
State Park Ranger (patrol)	25	\$370.00	\$9250.00
Heavy Equipment Operator (grade access road)	3	\$352.00	\$1,056.00
Seasonal Park Aide (maintenance)	20	\$137.00	\$2,740.00
Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (40 trips X 10 mi)	400	\$0.50	\$200.00
Maintenance (40 trips X 10 mi)	400	\$0.50	\$200.00
	Hours	Cost/Hr	
Heavy Equipment (grader, dozer, water truck, etc)	24	\$35.00	\$840.00
Project Supplies & Materials:			Total
Supplies, replacement signs & locks, etc			\$500.00
Sub-Total:			\$14,786.00
Overhead (10%):			\$1,478.60
Total:			\$16,264.60
10% of use and cost attributable to flow related recreation		0.1	\$1,626.46

Poverty Bar

This site is used occasionally as an overnight camping location by whitewater boaters (by permit). This location is also one of the river crossing locations for the 100-mile Tevis Cup ride, an annual special event.

Mammoth Bar

This site is located on the north side of the MFAR and is primarily on Reclamation land with BLM land just upstream. The majority of the recreation use at Mammoth Bar is off-road vehicle use. Nonetheless the facilities at this site are used by river-related recreation users, including whitewater boaters. CDPR staff clean the restrooms daily during the primary use season and pump the toilets at this location two times per week.

- portable chemical toilets
- gates
- signs
- gravel river access parking for approximately 20 or more vehicles.

The total cost of annual operation and maintenance of this site, excluding costs directly tied to OHV use, is \$251,080.50. The cost attributable to flow related recreation is \$7,532.42.

O+M Cost Spreadsheet - PCWA Relicensing
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Area: Mammoth Bar* - Reclamation			
*These costs do not include operation or facility maintenance costs directly tied to OHV use, such as grooming the track.			
Personnel:	Days	Daily Rate	Total
State Park Ranger (patrol)	250	\$370.00	\$92,500.00
Park Maintenance Assistant (pump toilets)	30	\$242.00	\$7,260.00
Seasonal Park Aides (maintenance, visitor services)	825	\$137.00	\$113,025.00
Vehicles:	Miles	Cost/Mo	Total
Ranger/LE Patrol (10 mi X 300 trips)	3000	\$0.50	\$1,500.00
Maintenance (10 mi X 350 trips)	3500	\$0.50	\$1,750.00
Visitor Services Park Aides (10mi x 300 trips)	3000	\$0.50	\$1,500.00
Disposal Fees			
	Hours	Cost/Hr	
Pumper Truck	200	\$35.00	\$7,000.00
	Gallons	Cost/gal	
Sewage Disposal Fees (chemical toilets have 75 gallon vaults)	10,000	\$0.20	\$2,000.00
	Yards	Cost/yard	
Garbage disposal fees (approx. 2 yards capacity X 30)	60	\$12.00	\$720.00
Project Supplies & Materials:			Total
Supplies, replacement signs, etc			\$1,000.00
Sub-Total:			\$228,255.00
Overhead (10%):			\$22,825.50
Total:			\$251,080.50
3% of use and cost attributable to flow related recreation		0.03	\$7,532.42

Murderer's Bar

This is the site of a Class V-VI rapid that is portaged by most users. Currently there are no facilities at this site. As noted above, depending on the use of this run in the future, a portage trail may be a desired future improvement.

Confluence River Access/China Bar Put-In

The Confluence of the MFAR and North Fork American River is the most heavily used recreation site within Auburn SRA. The most popular activities include swimming and sunbathing, and the site serves as the put-in for the China Bar run. The area also serves trail users, anglers, and other types of recreation use. During the primary recreation season (April-September) CDPR estimates 60-70 percent of the use at this site is river-related recreation. During the off season this figure is 30-40 percent. Facilities include:

- Two vault toilets (portable chemical toilets and a new pre-cast concrete double vault toilet installed in November 2010).
- Information/interpretive sign kiosk.
- Trash containers.
- Gates.
- Signs.
- Free personal flotation device (pfd) station.
- Roadside parking for approximately 300 vehicles.

During the primary recreation season, April through September, CDPR seasonal staff is on site cleaning and maintaining facilities and managing recreation use and parking seven days per week. CDPR pumps each of the toilets at this site six times per year. During the primary recreation season CDPR peace officers patrol this location daily and on average, there is a ranger on site 8 hours per day during the summer making public contacts, resolving disputes and addressing illegal and appropriate behavior. CDPR volunteers (the Canyon Keepers) are on site providing information and education every weekend day during the primary recreation season.

The total cost of annual operation and maintenance of this site is \$161,227.00. The cost attributable to flow related recreation is \$16,122.70.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: Confluence - Reclamation			
Personnel:	Days	Daily Rate	Total
State Park Ranger (patrol)	280	\$370.00	\$103,600.00
Park Maintenance Assistant (pump toilets)	20	\$242.00	\$4,840.00
Seasonal Park Aides (maintenance, visitor services)	200	\$137.00	\$27,400.00
Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (700 trips X 2 mi)	1400	\$0.50	\$700.00
Maintenance (350 trips X 2 mi)	700	\$0.50	\$350.00
	Hours	Cost/Hr	
Pumper Truck	96	\$35.00	\$3,360.00
Disposal Fees			
	Gallons	Cost/gal	
Sewage Disposal Fees (these portable toilets are installed on 700 gallon vaults)	8,000	\$0.20	\$1,600.00
	Yards	Cost/yard	
Garbage disposal fees (approx. 2 yards capacity X 30)	60	\$12.00	\$720.00
Project Supplies & Materials:			Total
Supplies, replacement signs, etc.			\$4,000.00

Sub-Total:		\$146,570.00
Overhead (10%):		\$14,657.00
Total:		\$161,227.00
10% of use and cost attributable to flow related recreation	0.1	\$16,122.70

Quarry Trailhead and River Access

This location provides trail access to the Quarry Trail but also provides river access for anglers, swimmers, and sunbathers to Murderer's Bar and beyond. CDPR estimates 25 percent of the use at this location is river-related. Facilities include:

- Dirt/gravel parking lot for 20-25 vehicles.
- Four portable chemical toilets (1 @ parking area, 3 along river access trail).
- Interpretive panels.
- Picnic tables.
- Trash containers.
- Gate.
- Signs.

CDPR seasonal park aides perform maintenance and fee collection at this site daily during the primary recreation season. A CDPR peace officer patrols the site daily throughout the year. The lower part of the Quarry Trail is used as a service road and this road requires annual maintenance that involves 3 days of heavy equipment operator time. The toilets at this location are pumped once a week during the primary recreation season by CDPR.

The total cost of annual operation and maintenance of this site is \$55,138.60. The cost attributable to flow related recreation is \$5,513.86.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: Quarry Trailhead and River Access - Reclamation			
Personnel:	Days	Daily Rate	Total
State Park Ranger (patrol)	60	\$370.00	\$22,200.00
Park Maintenance Assistant (pump vault toilets)	15	\$242.00	\$3,630.00
Heavy Equipment Operator (grade road/parking area)	3	\$352.00	\$1,056.00
Seasonal Park Aides (maintenance, visitor services)	120	\$137.00	\$16,440.00
Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (300 trips X 2mi)	600	\$0.50	\$300.00
Maintenance (200 trips X 2mi)	400	\$0.50	\$200.00
Park Aide - Visitor services (200 trips X 2mi)	400	\$0.50	\$200.00
	Hours	Cost/Hr	
Heavy Equipment (grader, dozer, water truck, etc)	24	\$35.00	\$840.00

Pumper Truck	40	\$35.00	\$1,400.00
Disposal Fees			
	Gallons	Cost/gal	
Sewage Disposal Fees (75 gallon vault each toilet)	10,000	\$0.20	\$2,000.00
	Yards	Cost/yard	
Garbage disposal fees (approx. 1 yard capacity X 30)	30	\$12.00	\$360.00
Project Supplies & Materials:			Total
Supplies, replacement signs, etc			\$1,500.00
Sub-Total:			\$50,126.00
Overhead (10%):			\$5,012.60
Total:			\$55,138.60
10% of use and cost attributable to flow related recreation		0.1	\$5,513.86

China Bar, Birdsall/Oregon Bar River Access

These sites are located on the north side of the MFAR and are on Reclamation land. There is BLM land along the Confluence to China Bar run. These river access facilities were constructed as part of the American River Pump Station project for which the licensee and Reclamation were the lead agencies. The facilities were built as part of the project in recognition that the project, which included closing the Auburn Dam diversion tunnel and restoring the de-watered section of river to its historic channel, would result in whitewater boating use on this stretch of river from the Confluence to Oregon Bar (or Rattlesnake Bar on Folsom Lake). Until a new General Plan/Resource Management Plan is prepared for Auburn SRA, CDPR committed to staffing the entrance station to this site to control the amount of vehicle access to these two river access points.

Over the past two seasons, use of this stretch of river has been light to moderate. However, the whitewater bypass channel at the pump station diversion is recognized as a popular river play feature. Given the proximity to Auburn and the Sacramento metropolitan area, the easy access off Interstate 80 and Highway 49 and the relatively easy Class 2-3 whitewater, CDPR anticipates that this run will eventually become an extremely popular recreation river opportunity used by rafters, beginning kayakers, all skill levels of play boaters, canoes, rafts, and inner tubes. The run has the potential to approach the popularity of the Lower American River in Sacramento, the Truckee River, or the Coloma to Lotus run on the South Fork of the American. Facilities at this location include:

- Entrance station.
- Fifty-vehicle parking lot at the old concrete batch plant.
- 8-10 vehicle parking lot at Birdsall access.
- One double pre-cast concrete vault toilet.
- Four portable chemical toilets.

- Two turn-around areas for equipment pick up and drop off, this includes river access trail/ramp.
- Approximately 2 miles of access road (1 mile paved, 1 mile dirt) between Maidu Drive, the main parking area (old concrete batch plant) and the two turn-around locations.
- Steel gates.
- Signs.
- Trash containers.

Currently, CDPR funding limitations only permit the entrance station to be staffed 2 days per week during the primary recreation season. Currently a CDPR peace officer patrols the site an average of 1 hour per day during the season. CDPR has heard from various users and groups that they would like this river access open year-round and more days per week. The roads to the Birdsall and Oregon Bar turn around locations require annual maintenance in order to provide continued access. This work includes grading, replacing base rock and brushing and involves 4 days of heavy equipment operator (an assistant) time. Additionally the river access ramp/trail at the Birdsall site requires annual maintenance to repair winter wash outs.

The total cost of annual operation and maintenance of this site is \$42,155.30. The cost attributable to flow related recreation is \$25,293.18.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: China Bar (Birdsall & Oregon Bar) – Minimal Access Version (Existing condition, 2 days/week during summer season) – Reclamation			
Personnel:	Days	Daily Rate	Total
State Park Ranger (open/close gates & patrol)	25	\$370.00	\$9,250.00
Heavy Equipment Operator (road grading)	4	\$352.00	\$1,408.00
Seasonal Park Aides (maintenance, visitor services)	125	\$137.00	\$17,125.00
Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (100 trips X 10mi)	1000	\$0.50	\$500.00
Maintenance (200 trips X 10 mi)	2000	\$0.50	\$1,000.00
Park Aide Visitor Services (60 trips X 10 mi)	600	\$0.50	\$300.00
	Hours	Cost/Hr	
Heavy Equipment (grader, dozer, water truck, etc)	32	\$35.00	\$1,120.00
Pumper Truck	40	\$35.00	\$1,400.00
Disposal Fees			
	Gallons	Cost/gal	
Sewage Disposal Fees (double CXT has 600 gallon vault, portables have 75 gallon vaults)	10,000	\$0.20	\$2,000.00
	Yards	Cost/yard	
Garbage disposal fees (approx. 2 yards capacity X 30)	60	\$12.00	\$720.00

Project Supplies & Materials:	Total
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As noted above, the costs in the table above only cover the current public access of 2 days per week during the summer season. CDPR believes this stretch of river has the potential to be a very popular public resource. An ideal level of public access would allow vehicle access to the China Bar area 7 days per week during the primary recreation season and 4 days per week during the off season. The annual operation and maintenance costs for this more optimal level of public access is \$184, 927.60. The cost attributable to flow-related recreation is \$110,956.56.

O+M Cost Spreadsheet - PCWA Relicensing			
Area: China Bar (Birdsall & Oregon Bar) - Optimal Access Version (7 days/week April - Oct, 4 days/week Nov - March) – Reclamation			
Personnel:	Days	Daily Rate	Total
State Park Ranger (open/close gates & patrol)	100	\$370.00	\$37,000.00
Heavy Equipment Operator (road grading)	4	\$352.00	\$1,408.00
Seasonal Park Aides (maintenance, visitor services)	804	\$137.00	\$110,148.00
Vehicles:	Miles	Cost/Mi	Total
Ranger/LE Patrol (300 trips X 10mi)	3000	\$0.50	\$1,500.00
Maintenance (300 trips X 10 mi)	3000	\$0.50	\$1,500.00
Park Aide Visitor Services (300 trips X 10 mi)	3000	\$0.50	\$1,500.00
	Hours	Cost/Hr	
Heavy Equipment (grader, dozer, water truck, etc)	32	\$35.00	\$1,120.00
Pumper Truck	100	\$35.00	\$3,500.00
Disposal Fees	Gallons	Cost/gal	
Sewage Disposal Fees (double CXT has 600 gallon vault, portables have 75 gallon vaults)	20,000	\$0.20	\$4,000.00
	Yards	Cost/yard	
Garbage disposal fees (approx. 2 yards capacity X 30)	120	\$12.00	\$1,440.00
Project Supplies & Materials:			Total
Aggregate for road/access ramp maint., supplies, replacement signs, etc			\$5,000.00
Sub-Total:			\$168,116.00
Overhead (10%):			\$16,811.60
Total:			\$184,927.60
60% of use and cost attributable to flow related recreation		0.6	\$110,956.56

Whitewater Management and River Patrol Program

These river patrol, management and administrative costs are separate and in addition to the facility management operation and maintenance costs identified for each of the specific sites above.

In addition to the specific site operation and facility maintenance costs identified above by location, CDPR also administers the commercial whitewater outfitter use on the MFAR through concession contracts. Each year there are approximately 22-25 commercial outfitters that operate on the MFAR within Auburn SRA.

The amount of commercial whitewater use is limited during peak use periods. Both the group size (number of rafts per group) and the total amount of use per day (number of rafts and people) is limited during these peak use times. CDPR allocates the number of trip starts to each outfitter annually based on recent historic use. The outfitters pay fees to CDPR based on the amount of use. CDPR develops and prepares the concession contracts for each outfitter annually, develops the system for allocating use during peak use periods annually, keeps records of reported outfitter use, monitors outfitter use at put-ins, take-outs and various locations along the river and conducts periodic counts of outfitter use.

CDPR has operation costs associated with the management of the commercial whitewater concession contracts within the peaking reach. This work also includes river patrol, river patrol and monitoring, outfitter management and administration and concession contract administration. CDPR regularly patrols the whitewater runs on the MFAR and the North Fork American River below the Confluence. This river program management is carried out by a CDPR Ranger, with administrative support from an Office Technician and seasonal park aides. In addition to the work associated with commercial whitewater use, the river management program also administers and monitors river camping permits issued to private boaters, monitors private boating use and provides other types of law enforcement (such as fishing license compliance) on river patrols.

The annual river program management costs for the peaking reach are \$183,304.00.

O+M Cost Spreadsheet PCWA Relicensing			
Area: Middle Fork River Patrol and Management, Program Administration			
Personnel:	Days	Daily Rate	Total
State Park Superintendent II (develop/manage river concession contracts, river program oversight)	5	\$553.00	\$2,765.00
Supervising State Park Ranger (supervision of rangers and park aids)	5	\$459.00	\$2,295.00
State Park Ranger (manage river program, river patrol, outfitter management)	160	\$370.00	\$59,200.00
Office Technician (process and track outfitter permits and fees)	140	\$256.00	\$35,840.00
Seasonal Park Aides (visitor services, maintenance)	340	\$137.00	\$46,580.00
Seasonal Park Aide (office)	80	\$137.00	\$10,960.00

Vehicles:	Miles	Cost/Mi	Total
State Park Ranger (5,000 miles per year)	5,000	\$0.50	\$2,500.00
Park Aides (7,000 miles per year)	7,000	\$0.50	\$3,500.00
Project Supplies & Materials:			Total
Materials, Equipment, Supplies, etc.			\$3,000.00
Sub-Total:			\$166,640.00
Overhead (10%):			\$16,664.00
Total:			\$183,304.00

Summary of Peaking Reach Recreation Operation, Maintenance and Administration Costs for BLM and Reclamation

The total cost of this annual recreation operation, maintenance and administration for State CDPR-managed facilities and programs directly tied to the flow related use on the MFAR, including the river management and patrol, is \$295,974.09 for BLM owned sites and \$141,752.00 for Reclamation owned sites. This latter cost assumes operation of the China Bar area at optimal level of public access at China Bar.

One type of costs that are not necessarily factored into the above costs is the incident specific costs CDPR incurs for emergency response along the Middle Fork. The level of emergency response incidents has been documented in the LAND technical studies.

Unimpaired versus Impaired Flows

The unimpaired hydrograph for the peaking reach indicates that in most water type years there is insufficient flow to support the primary whitewater recreation that occurs on this reach, the rafting on the Class IV-V Tunnel Chute run, from approximately mid-June to late November or early December. This run requires a minimum of 900 to 1,000 cfs in order to provide an acceptable recreation experience. The unimpaired hydrograph indicates that flows would drop below this level from sometime between early June to early July, depending upon water year type, and flows would not again reach this volume until late November or early December.

Whitewater use data, both private (actual reported amount) and commercial use on the Tunnel Chute and Mammoth Bar runs, from 1995 through 2009 totals 270,710 people. Of this total, 231,961 people used the river during the period from mid-June through the end of November. Therefore 86 percent of the flow related recreation use in the peaking reach within Auburn SRA occurs within the period from mid-June through mid-November. Therefore the impaired flows from the PCWA project result in 86 percent of the flow dependent use within the peaking reach.

Determination of Licensee's Proportionate Share

Eighty-six percent of the flow-dependent recreation use within the peaking reach that occurs as a result of the project altered flows is a reasonable proxy for the percentage of the cost of operating, maintaining, and managing the use in this reach that is attributable to the Project. The

total current cost of operating, maintaining and managing the flow dependent recreation use in the peaking reach is \$295, 974.09 for the BLM and 141,752.00 for BOR. Eighty-six percent of these totals is **\$254,537.72** for BLM and \$121,906.72 for BOR.

Reclamation Administration and Environmental Documentation Costs

For the sites in the peaking reach that occur on Reclamation lands, Reclamation has additional administrative costs associated with the operation, maintenance and management of these sites. These sites include Cherokee Bar, Mammoth Bar, Confluence, Quarry Trailhead and China Bar. These costs include Reclamation oversight responsibilities for the flow related recreation use and the environmental review costs associated with improvements and maintenance activities. This additional cost for the operation, maintenance and management of flow related recreation on Reclamation lands is \$60,000. Adding this additional cost to the Reclamation amount identified above results in total cost of **\$181,906.72** for Reclamation sites.

These costs are summarized in the table below:

O+M Cost Spreadsheet - MFAR Relicensing		
Peaking Reach Recreation Sites and Costs for BLM and BOR		
Site	Agency Ownership	Flow-Related Recreation Management Costs
ANNUAL OPERATION & MAINTENANCE		
Fords Bar (Upper and Lower)	BLM	\$29,272.10
Canyon Creek	BLM	\$16,423.00
Ruck-a-Chucky/Greenwood	BLM	\$66,974.99
Whitewater Patrol, Management and Administration	BLM	\$183,304.00
BLM Subtotal		\$295,974.09
PCWA Fair Share = X .86		\$254,537.72
Cherokee Bar	Reclamation	\$1,626.46
Mammoth Bar	Reclamation	\$7,532.42
Confluence	Reclamation	\$16,122.70
Quarry Trailhead & River Access	Reclamation	\$5,513.86
China Bar (optimal access)	Reclamation	\$110,956.56
Reclamation Subtotal		\$141,752.00
PCWA Fair Share = X .86		\$121,906.72
Reclamation Administration and Environmental Documentation		\$60,000.00
Reclamation Total		\$181,906.72

Rationale for Public Information Services

The need for and benefits of providing public streamflow information, reservoir level information, and other recreation information were identified in the Application for License

submitted by the licensee, along with the Recreation Plan and surveys of recreation visitors as presented in REC-2 TSR (PCWA, 2010). Publicly accessible streamflow information will improve the opportunity to use both natural spill events and managed flows for all recreationists. Public safety and educational information provided to recreationists will assist in minimizing resource impacts from recreation visitors and improve the visitor's experience. Information as to recreation opportunities, including maps and brochures, will aid visitors in utilizing the opportunities in the vicinity of the project, assist in minimizing resource impacts, and inform the public of alternative recreation opportunities.

Rationale For Fish Stocking Program

Project facilities and operation have a direct affect on the movement of fish within habitat of the MFAR watershed, causing isolation to those populations supported by impounded waters upstream of Project dams. The licensee is responsible for providing reservoir based recreation, including angling opportunities. It is reasonable to expect that the licensee will fund 100 percent of future fish stocking costs at two of the three large impoundments as enhanced recreation and mitigation for impacts to the historic fishery. The fish stocking program for French Meadows and Hell Hole Reservoirs should be fully funded through a new MFP license.

Rationale for Future Project Recreation Facility Enhancements

It is recognized that changes over time in visitor attitudes, preferences, use patterns, experience, and capacity may require modifications to the facilities within the Project area. This measure will provide the licensee, FS, BLM, Reclamation, and CDPR the ability to react to changes and provide the quality recreation opportunities in the Project area required to meet the Forest Plan, and other applicable management standards.

References

Carnazzo, B., 2010a, Angler Focus Group Meeting, March 4, 2010, Joint cComments of Anglers Experienced on the Bypass Reaches (Bill Carnazzo, Bill Templin, Monte Hendricks, Ed Wahl), document written by Bill Carnazzo, 12 p

Carnazzo, B., 2010b, Foothills Angler Group Facilities Project List for Recreation Plan, Bypass Reaches, April 15, 2010, 5 p.

PCWA, 2006, Project Description (Draft), June 2006.

USFS, 2006a, FS Trail Accessibility Guidelines (FSTAG), May 22, 2006, 86 p.

USFS, 2006b, FS Outdoor Recreation Accessibility Guidelines (FSORAG), May 22, 2006, 77 p.