Please indicate County where your project is located here:

Butte

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
http://www.waterboards.ca.gov/waterrights

PETITION FOR CHANGE INVOLVING WATER TRANSFERS

Separate petitions are required for each water right. Mark all areas that apply to your proposed change(s). Incomplete forms may not be accepted. Location and area information must be provided on maps in accordance with established requirements. (Cal. Code Regs., tit. 23, § 715 et seq.) Provide attachments if necessary.

☒ **Point of Diversion** Wat. Code, § 1701
☒ **Point of Rediversion** Wat. Code, § 1701
☒ **Place of Use** Wat. Code, § 1701
☐ **Purpose of Use** Wat. Code, § 1701

☐ **Temporary Urgency** Wat. Code, § 1435
☒ **Temporary Change** Wat. Code, § 1725
☐ **Long-term Transfer** Wat. Code, §§ 382, 1735
☐ **Instream Flow Dedication** Wat. Code, § 1707

Application 2778 Permit 2492 License _____ Statement _____

I (we) hereby petition for change(s) noted above and described as follows:

Point of Diversion or Rediversion – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Present: See Attachment No. 1

Proposed: See Attachment No. 1

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present: See Attachment No. 1

Proposed: See Attachment No. 1

Purpose of Use

Present: Recreation, Domestic, Municipal, Industrial, Irrigation

Proposed: Recreation, Domestic, Municipal, Industrial, Irrigation

Instream Flow Dedication – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Upstream Location: Not applicable.

Downstream Location:

List the quantities dedicated to instream flow in either: ☐ cubic feet per second or ☐ gallons per day:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Will the dedicated flow be diverted for consumptive use at a downstream location? ◯ Yes ◯ No
If yes, provide the source name, location coordinates, and the quantities of flow that will be diverted from the stream.

Proposed New User(s)

Provide the names, addresses, and phone numbers for all proposed new user(s) of the water right.

See Attachment No. 1

Amount of Water to be Transferred

4,000 acre-feet will be transferred. If the basis of right is direct diversion, the average rate of diversion for the maximum 30-day period of use is N/A cubic feet per second or million gallons per day.

General Information – Provide the following information, if applicable to your proposed change(s).

Have you attached an analysis which documents that the amount of water to be transferred or exchanged would have been consumptively used or stored in the absence of the proposed temporary change or long-term transfer? (●) Yes ( ) No

Have you attached an analysis of any changes to streamflow, water quality, timing of diversion or use, return flows, or effects on legal users from the proposed temporary change or long-term transfer? (●) Yes ( ) No

Have you attached an analysis that shows the proposed temporary change or long-term transfer will not unreasonably affect fish, wildlife, or other instream beneficial uses? (●) Yes ( ) No

I (we) have access to the proposed point of diversion or control the proposed place of use by virtue of:
[X] ownership [ ] lease [ ] verbal agreement [X] written agreement

If by lease or agreement, state name and address of person(s) from whom access has been obtained.

The Agency owns the present points of diversion. Access has be or will be acquired for the proposed new, temporary points of diversion by virtue of agreements as applicable with the Department of Water Resources, United States Bureau of Reclamation, and/or the buyer Valley Water (Santa Clara Valley Water District).

Give name and address of any person(s) taking water from the stream between the present point of diversion or rediversion and the proposed point of diversion or rediversion, as well as any other person(s) known to you who may be affected by the proposed change.

See Attachment 1

All Right Holders Must Sign Below: I (we) declare under penalty of perjury that this involves only the amount of water which would have been consumptively used or stored in the absence of the proposed temporary change, and that the above is true and correct to the best of my (our) knowledge and belief.

Dated May 24, 2021 at Oroville, California.

Right Holder or Authorized Agent Signature

Dustin C. Cooper, General Counsel

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:
(1) the form Environmental Information for Petitions, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/forms/docs/pet_info.pdf
(2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
(3) Department of Fish and Wildlife fee of $850 (Pub. Resources Code, § 10005)

Attachment No. 1

to Petition for Change Involving Water Transfers

Permit 2492 (Application 2778)

held by South Feather Water & Power Agency

PURPOSE OF PETITION

The purpose of this Petition for Change Involving Water Transfers (Petition) is to: (1) add the State Water Project's (SWP) Harvey O. Banks Pumping Plant and Barker Slough Pumping Plant, the Central Valley Project's (CVP) Jones Pumping Plant, and San Luis Reservoir as points of diversion, and (2) add the service area of Valley Water (Santa Clara Valley Water District) as an additional place of use to South Feather Water & Power Agency's (Agency) Permit 2492 (Application 2778). This Petition is being filed to facilitate a temporary transfer (2021 Water Transfer) of up to 4,000 acre-feet (AF) of currently stored surface water from the Agency's Sly Creek Reservoir during July through November 2021, which will be made available by reoperation of this reservoir for delivery to Valley Water (Santa Clara Valley Water District) ("Buyer") in order to provide an additional water supply for recreational, irrigation, municipal, industrial, and domestic purposes. Another Petition for Change involving Water Transfers of up to an additional 4,000 AF under the Agency's Permit 1267 by reoperation of Little Grass Valley Reservoir is submitted contemporaneously with this Petition. Together, the two Petitions would allow the transfer of up to 8,000 AF to the Buyers.

Transfers involving reservoir storage release involve the release of water in excess of what would be released annually under normal operations. Absent the proposed temporary transfer, the Agency would not make water available at the point of delivery, Ponderosa Dam, thence Lake Oroville. The proposed 2021 Water Transfer is consistent with the dry conditions

prevailing throughout the State of California, Governor Newsom's May 10, 2021 Drought Emergency Proclamation, and the current extremely low storage conditions and low allocations for the SWP and CVP south-of-delta water users.

POINT OF DIVERSION OR REDIVERSION

Present Point of Diversion:

See Exhibit A

Proposed Additional Points of Diversion:

No change in the present point of diversion is proposed. The Agency proposes to add the following points of diversion:

Banks Pumping Plant via the Clifton Court Forebay

N 2,126,440 ft., E 6,256,425 ft., California Coordinate System Zone 3, NAD 83, being within the NW ¼ of SE ¼ of Projected Section 20, T1S, R4E, MDB&M. This proposed additional point of diversion is identified on maps filed with the Division of Water Rights (Division) under Application 5630.

Barker Slough Pumping Plant

N 567,682, E 2,017,761, California Coordinate System Zone 2, within the NE ¼ of SW ¼ of Projected Section 18, T5N, R2E, MDB&M. This proposed additional point of diversion is identified on maps filed with the Division of Water Rights (Division) under Application 5630.

CW "Bill" Jones Pumping Plant

N 2,121,505 ft., E 6,255,368 ft., California Coordinate System Zone 3, NAD 83, being within the NE ¼ of S W ¼ of Projected Section 29, T1S, R4E, MDB&M. The proposed

point of rediversion is identified on maps filed with the Division of Water Rights under Map 214-202-84 (CVP).

San Luis Reservoir

37° 4'27.36"N/121° 0'54.55"W California Coordinate System, Zone 3, NAD 83, being within the SE 1/4 of Section 7, T10S, R9E, MDB&M. This proposed point of temporary storage and rediversion is identified on maps filed with the Division under Application 5630 (SWP) and Map 214-202-84 (CVP) for the use of San Luis Reservoir.

PLACE OF USE

Present:

See Exhibit A.

Proposed:

No change in the present place of use is proposed. The Agency proposes to add the service area of Valley Water (Santa Clara Valley Water District) as the proposed additional place of use in order to facilitate the temporary water transfer to the Buyer. This portion of the service area of the SWP is shown on Map 1878 – 1, 2, 3 and 4 on file with the Division under Application 5630, and this portion of the service area of the CVP is shown on Map 214-202-84 on file with the Division of Water Rights.

PROPOSED NEW USER:

Santa Clara Valley Water District
Francis Brewster
5750 Almaden Expressway
San Jose, CA 95118

GENERAL INFORMATION

The Agency's Reservoir Storage Release will be made in accordance with the Draft Technical Information for Preparing Water Transfer Proposals for transfers in 2021 (Draft Technical Information) published by the Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation). The Draft Technical Information has been developed to address the concerns of DWR and Reclamation relative to the potential impacts that water transfers may have on other legal users, instream beneficial uses, and the overall economy and environment. The Agency's Reservoir Storage Release will also be made in accordance with all current operational requirements. In addition, the Agency proposes that release of transfer water comply with ramping rates as set forth in the Final Section 4(e) Terms and Conditions for the relicensing of the South Feather Power Project, FERC No. 2088, including without limitation the Ramping Rates of Part 5 of Condition 18, (beginning at P. 15) a copy of which is attached hereto as Exhibit D and which is incorporated herein as if set forth in full.

The Agency and DWR agreed to a refill criteria as part of the Agency's last transfer in 2015. The Agency is proposing the same refill criteria agreed upon in 2015 for these 2021 transfers. The criteria is attached as Exhibit C. With this criteria, the proposed transfer and the refill of the storage space vacated due to the proposed transfer does not injure any legal user of water.

As a result of the Agency's two Petitions for transfer, the flow into Lake Oroville at Ponderosa Dam and thence the Feather River will increase by up to 8,000 AF during the period of the transfer over what would have occurred absent the proposed transfer. The water will be released into Lake Oroville consistent with current operational requirements set forth in the Final Section 4(e) Terms and Conditions for the relicensing of the South Feather

Power Project, FERC No. 2088, including without limitation the Ramping Rates of Part 5 of Condition 18. There will be no reduction in flow downstream of Lake Oroville as a result of the transfer. Therefore, there will be no injury to other legal water users, water quality, or return flows; in fact, these increased flows may provide benefits for fisheries and wildlife and may result in a positive effect to the water users between the point of delivery and the proposed additional point of diversion.

During a typical year, Little Grass Valley and Sly Creek Reservoirs are filled by the end of May with runoff from snow melt and rainfall, and are then gradually drawn down throughout the summer to provide instream aquatic habitat, consumptive water supply and power generation, while maintaining sufficient water supplies for recreational purposes. The end of the year storage (on or before December 31) in Little Grass Valley is typically 45,000 – 50,000 AF, and the storage in Sly Creek Reservoir is 10,000 – 15,000 AF, for a combined end of year storage total of about 60,000 AF. In 2021, in the absence of a transfer, the Agencies combined end of year storage target is 60,000 AF.

To facilitate the transfer, 8,000 AF in excess of typical operations will be drawn down (4,000 AF from Sly Creek Reservoir, 4,000 from Little Grass Valley), while still meeting the Agency's various responsibilities regarding recreation, instream flow, and hydroelectric generation. This 8,000 AF in excess of typical operations would be delivered from Little Grass Valley Reservoir and Sly Creek Reservoir, respectively, through the Agency's facilities to Ponderosa dam where the water will be spilled to Lake Oroville (See attached Exhibit B depicting Agency facilities). The combined 2021 low-point storage in Little Grass Valley and Sly Creek Reservoirs would be drawn down to about 52,000 AF, rather than the non-transfer target of 60,000 AF.

The conveyance of the transfer water through Petitioner's hydroelectric power project. The 4,000 acre-feet proposed from Little Grass Valley will be conveyed via the South Fork Feather River to the South Fork Diversion Dam and through the South Fork Diversion Tunnel to Sly Creek Reservoir. The 4,000 acre-feet proposed from Little Grass Valley and the 4,000 acre-feet from Sly Creek Reservoir will be used to generate hydroelectric power at Sly Creek Powerhouse and released to Lost Creek Reservoir. From there, it will be used to generate hydroelectric power at Woodleaf Powerhouse and released to Forbestown Diversion Reservoir. From there it will be used to generate hydroelectric power at Forbestown Powerhouse and released to Ponderosa Reservoir. From there it will be spilled to Oroville Reservoir.

Once transfer water is delivered at Ponderosa Dam into Lake Oroville, DWR would deliver the transfer water to Buyer on a schedule approved by DWR which will result in no impact to CVP or SWP operations. Transfer water releases from Lake Oroville and exports by DWR shall be made in conformance with all applicable regulatory requirements including those contained in Water Right Decision 1641, the Biological Opinions issued by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (BiOps), the Incidental Take Permit (ITP) of California Department of Fish and Wildlife, as well as any other applicable regulatory obligations, including any potential 2021 Temporary Urgency Change Petitions affecting operations in the Delta.

Consistent with Water Code § 1726, a copy of the Petition and related documents will be sent to California Department of Fish & Wildlife (DFW). The transfer is similar to transfers from other agencies within the Feather River watershed have occurred over the last 20 plus years. No adverse impacts to those transfers were identified by DFW.

Agency provided a copy of this petition and related documents to Regional Board staff at the same time this petition was filed with the SWRCB. The water proposed for transfer is very high quality runoff derived from snowmelt and rains falling in predominantly undeveloped portions of the Butte and Plumas Counties in the Sierra Nevada mountains. The proposed transfer would not violate any water quality standards or waste discharge requirements. The proposed transfer would use existing reservoirs, streams, and rivers operating within all applicable requirements. Transfer water releases from Lake Oroville and exports by DWR shall be made in conformance with all applicable regulatory requirements including those contained in Water Rights Decision 1641, the ITP, BiOps, as well as all other applicable regulatory obligations.

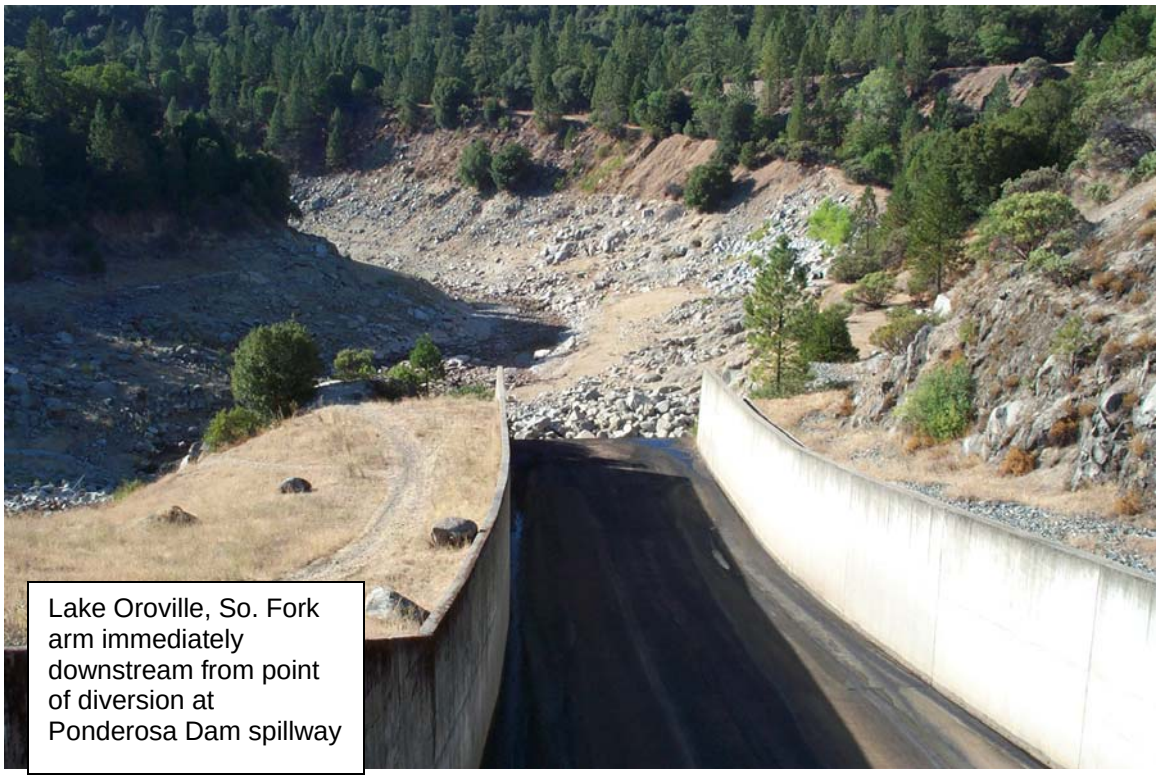
Agency will provide copies of the Petition and related documents, by certified mail, to the Board of Supervisors for the Counties of Butte, Plumas, and Santa Clara.

See files of the State Water Resources Control Board for more information regarding other legal water users, which may include the Delta water users, the CVP, the SWP, and the Cities of Sacramento and West Sacramento.

EXHIBIT A

Environmental Information for Petitions
Environmental Setting – Photographs

Ponderosa Reservoir immediately upstream from point of diversion

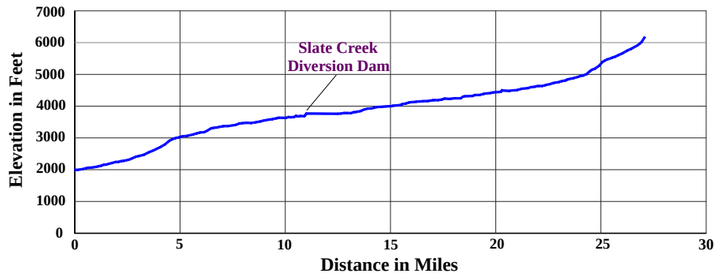


Lake Oroville, So. Fork arm immediately downstream from point of diversion at Ponderosa Dam spillway

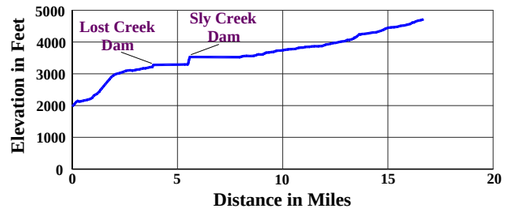
The 8,000 acre-feet transferred will be placed in Lake Oroville for release to the Feather River and to points of rediversion for the buyer(s) agencies.

EXHIBIT B

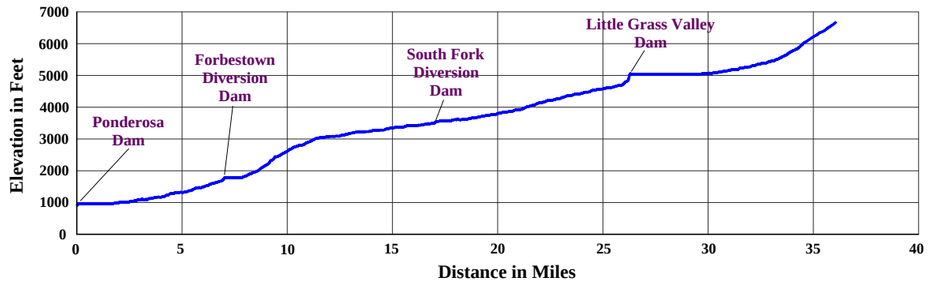
Slate Creek Profile



Lost Creek Profile



South Fork Feather River Profile



Little Grass Valley Storage drawn down for transfer

Ponderosa Dam - transfer delivery point to Lake Oroville

Sly Creek storage drawn down for transfer

Basemap Features

- Powerhouses
- Trails
- Major Roads
- Forest Roads used for SFPP Operations
- Plumas National Forest Roads
- Canal
- Penstock
- Siphon
- Tunnel

- FERC Project Boundary
- Perennial Streams & Rivers
- South Fork Project Reservoirs
- Project Vicinity Boundary

Non-Project

- South Feather Water and Power Agency Ditches
- Non-Project Reservoirs
- 115 kV Transmission Lines

Project Facility Color key

Pacific Gas and Electric Company's Hydroelectric projects (FERC Projects No. 4851 and 2281)

South Feather Power Project's Hyroelectric Project (FERC Project No. 2088)

N

MN

17.5°

1975 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

0 1 2 4 6 Miles

REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPR'D
	09-11-03	ES-1.pdf	ESF	CCC	

FIGURE ES-1

South Feather Power Project Vicinity Map

SOUTH FEATHER POWER PROJECT

FERC PROJECT NO. 2088	September 11, 2003

Data Sources: Roads and Streams: Plumas National Forest and U.S. Census Bureau TIGER 2000; Reservoirs - SFWPA & U.S. Census Bureau TIGER 2000; Transmission Lines - USGS & GPS; SFWPA facilities: SFWPA

Original Map: Size 11" x 17" color - f:\av_proj\power\relicense\project.mxd

Map prepared by: South Feather Water and Power Agency

EXHIBIT C

Exhibit C
Proposed SFWPA 2021 Refill Criteria
(Modeled After SFWPA/DWR's 2015 Refill Criteria)

SFWPA, principally located in Butte County, owns and operates Little Grass Valley and Sly Creek Reservoirs and holds Water Rights Permits 1267 and 2492 (Applications 1651 and 2778). SFWPA is willing to release up to 8,000 acre-feet of water stored in its Little Grass Valley (4,000 AF) and Sly Creek Reservoirs (4,000 AF) for transfer to Valley Water (Santa Clara Valley Water District) in 2021.

1. The Point of Transfer to the buyer shall be Ponderosa Dam at Lake Oroville. DWR will release the Transfer Water from Lake Oroville on a schedule approved by DWR. DWR shall convey the Transfer Water less any losses as specified in this Agreement to the Valley Water (Santa Clara Valley Water District) service area from the Banks Pumping Plant.

2. The Maximum Transfer Amount is 8,000 acre-feet. The Transfer Water will be measured by SFWPA at Ponderosa Dam and reported weekly to the DWR contact listed in Article XX of this 2021 Storage and Conveyance Agreement ("Agreement"), and verified by a change in SFWPA operations that demonstrates delivery of new water at the Point of Transfer, using gauge records for spill at Ponderosa Dam and 2021 low-point reservoir storage at Little Grass Valley and Sly Creek dams. SFWPA shall submit the gage rating curves and any other relevant technical information to DWR prior to initiating the transfer. DWR will schedule the release of Transfer Water from Lake Oroville during the Transfer Period and in accordance with current operational requirements set forth in the Final Section 4(e) Terms and Conditions for the South Feather Power Project, FERC No. 2088, including without limitation the Ramping Rates of Part 5 of Condition 18.

3. All Transfer Water made available by SFWPA is subject to losses as specified in Article XX of this Agreement from the Point of Transfer to the Banks Pumping Plant. The losses will be applied to the water pumped from the Delta. For example, if the losses are 30 percent and the Maximum Transfer Amount of 8,000 acre-feet is made available at the Point of Transfer, losses of 2,400 acre-feet shall be assessed resulting in a net amount of Transfer Water exported of 5,600 acre-feet.

4. The release of Transfer Water shall be in addition to amounts otherwise scheduled to be released from Little Grass Valley and Sly Creek by SFWPA including, but not limited to, required in-stream flows, water provided under the terms of any agreements or regulatory requirements, and any other water transfers made by SFWPA. Releases shall be in accordance with current

operational requirements Final Section 4(e) Terms and Conditions for the relicensing of the South Feather Power Project, FERC No. 2088

5. Refilling of the Little Grass Valley and Sly Creek vacated storage resulting from the release of the 2021 Transfer Water pursuant to this Agreement may adversely impact the operations of the Central Valley Project (CVP) and SWP (collectively referred to as the Projects) if it occurs when Lake Oroville has not reached Flood Control Operations. Due to the dry hydrologic conditions in 2021, DWR is willing to accept a modified refill criteria, as described below in this Article, for a transfer originating above Lake Oroville. There are unique benefits to the proposed water transfer to both Valley Water (Santa Clara Valley Water District) and SWP project operations in 2021 that make a modification of the refill criteria acceptable for the 2021 transfer.

6. These refill criteria shall not establish a precedent for future transfers from SFWPA. To avoid potential refill impacts to the SWP and CVP, the following Refill Requirements shall apply to the water transferred under this Agreement.

    a. The maximum allowable combined Little Grass Valley and Sly Creek storage amount at its low point in October 2021 shall be XXXXX acre-feet in order to obtain credit for the maximum amount of Transfer Water of 8,000 acre-feet. SFWPA shall submit to DWR sufficient information demonstrating that its operations have changed and will result in the delivery of an additional up to 8,000 acre-feet of Transfer Water at the Point of Transfer including the 2021 operations plan without the transfer operations. The maximum allowable October low point storage represents a reduction in storage below the initially projected 2021 without project operations.

    b. SFWPA shall maintain a “Refill Impact Account” to track the refill of Little Grass Valley and Sly Creek reservoir storage vacated as a result of the release of 2021 Transfer Water. The Refill Impact Account balance shall begin to accrue when SFWPA’s combined storage in Sly Creek and Grass Valley Reservoirs equals or exceeds the maximum allowable combined storage in any given month as shown in the table below minus the actual transfer quantity. The Refill Account Balance shall not exceed the amount of the transfer. The maximum allowable capacity at the end of each month, based on the spill gate operations plan on file with the Department of Water Resources, Division of Safety of Dams, is as follows:

Month	Max AF	Month	Max AF	Month	Max AF
January	124,302	May	151,107	September	124,302
February	124,302	June	151,107	October	124,302
March	119,327	July	151,107	November	124,302

April	129,208	August	151,107	December	124,302

c. This Agreement and Exhibit shall not limit SFWPA's ability to refill storage vacated as a result of normal, non-transfer operations (Non-transfer Refill). Non-transfer Refill shall be deemed to occur first before filling storage vacated due to transfer.

d. SFWPA may refill the storage vacated due to the transfer beginning December 1, 2021 during Delta excess conditions and when Oroville storage is greater than 1.1 MAF. If refill of storage vacated for the transfer occurs before "Flood Control Operations," as hereinafter defined, then the amount of such refill shall be accounted for in the Refill Impact Account. If there is a balance in the Refill Impact Account on May 31 of any year following the transfer and before Oroville reaches "Flood Control Operations", SFWPA shall be required to release the quantity of water in the Refill Impact Account by July 31 of that year whenever the end-of-water year projected storage level in Lake Oroville at a 90% exceedance, as determined by DWR in accordance with its May Operations Plan, is projected to be at or below 1.6 MAF.

e. The obligation to maintain a Refill Impact Account and to mitigate for any possible impacts from the transfer will apply until Lake Oroville reaches Flood Control Operations. Flood Control Operations, for purposes of determining SFWPA transfer refill impact, shall exist when any of the following conditions occur:

(1) Actual storage in Lake Oroville encroaches into flood control reservation as defined by the Corps of Engineers Flood Control Diagram dated September 1971 or any other applicable flood operations plan; or

(2) Total releases to the Feather River below Thermalito Afterbay outlet are greater than or equal to 10,000 cubic feet per second and the Delta is not in Balanced Conditions;

(3) Storage in Lake Oroville exceeds normal maximum storage of 3,500,000 acre-feet.

f. The Refill Impact Account will be set to zero if DWR meets any Flood Control Operations (as defined above) from Lake Oroville in an amount at least as great as the then existing Refill Impact Account balance.

g. Notwithstanding anything to the contrary in this Agreement, the maximum balance in the Refill Impact Account that SFWPA may be required to release in any given year will not exceed the transfer quantity.

7. SFWPA will not conduct another water transfer, other than that provided for in this Agreement if such additional transfer could impair SFWPA's ability to fully comply with the terms of this Agreement.

EXHIBIT D

United States Department of Agriculture
Office of the General Counsel

Pacific Region-San Francisco Office
33 New Montgomery, 17th Floor
San Francisco, CA 94105-4511

Telephone: 415-744-3011
Facsimile: 415-744-3170
Internet: joshua.rider@usda.gov

Via Electronic Filing

March 6, 2009

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

Subject: **FINAL SECTION 4(e) TERMS AND CONDITIONS**
South Feather Power Project, FERC No. 2088

Dear Ms. Bose:

The following Final Terms and Conditions for the South Feather Power Project, FERC No. 2088 are being submitted pursuant to Section 4(e) of the Federal Power Act. The Forest Service filed preliminary Section 4(e) Terms and Conditions on April 14, 2008 and revisions to several of those Terms and Conditions on May 13, 2008 after discussions with the South Feather Water and Power Agency (Licensee). The Licensee filed alternative conditions on May 14, 2008, pursuant to the provisions of § 33 of the Federal Power Act (FPA), and 7 CFR § 1.604, and § 1.671 (the rule). The Forest Service completed its analysis of those alternative conditions pursuant to 7 CFR § 1.673 as documented in Enclosure 2 of this response. The Forest Service analysis of the Licensee's alternative conditions resulted in further revision to Condition 18 Part 1, Minimum Streamflows and Condition 19 Part 2, Foothill Yellow-Legged Frog Monitoring. Condition 18 Part 5, Ramping Rates was slightly revised to be consistent with the new language resulting from the above revisions

Enclosure 1 contains the FINAL Section 4(e) terms and conditions found to be necessary for the protection and utilization of the Plumas National Forest. Applicable comprehensive plans include: the Plumas National Forest Land and Resource Management Plan (LRMP) as amended and the Sierra Nevada Forest Plan Amendment (USDA 2004). **Enclosure 2** contains the Forest Service analysis of and decision on the Licensee's alternative condition submittal.

Respectfully submitted,

/s/Joshua S. Rider
Attorney for the Forest Service

Enclosure
cc: Plumas National Forest
Service List

Enclosure 1

FINAL LICENSE TERMS AND CONDITIONS
NECESSARY FOR THE PROTECTION AND UTILIZATION
OF THE PLUMAS NATIONAL FOREST
IN CONNECTION WITH
THE APPLICATION FOR LICENSE

South Feather Power Project
FERC Project No. 2088
South Feather Water and Power Agency

Enclosure 2

Alternative License Condition Analysis pursuant to EPAct 2005

South Fork Feather Power Project
FERC Project No. 2088

I. General

The Forest Service (FS) provides the following Final Section 4(e) conditions for the SOUTH FORK FEATHER POWER PROJECT Hydroelectric Project, FERC No.2088, in accordance with 18 CFR 4.34(b)(1)(i). Section 4(e) of the Federal Power Act (FPA), which states the Commission may issue a license for a project within a reservation only if it finds that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired. This is an independent threshold determination made by FERC, with the purpose of the reservation defined by the authorizing legislation or proclamation (see Rainsong v. FERC, 106 F.3d 269 (9th Cir. 1977). The FS, for its protection and utilization determination under Section 4(e) of the FPA may rely on broader purposes than those contained in the original authorizing statutes and proclamations in prescribing conditions (see Southern California Edison v. FERC, 116F.3d 507 (D.C. Cir. 1997)).

The following terms and conditions are based on those resource and management requirements enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or the Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resource Management Plans (LRMP)prepared in accordance with the National Forest Management Act. Specifically, the 4(e) conditions in this document are based on the Land and Resource Management Plan (as amended) for the Plumas National Forest, as approved by the Regional Forester of the Pacific Southwest Region.

Pursuant to Section 4(e) of the Federal Power Act, the Secretary of Agriculture, acting by and through the Forest Service, considers the following conditions necessary for the adequate protection and utilization of the land and resources of the Plumas National Forest. License articles contained in the Federal Energy Regulatory Commission's (Commission) Standard Form L-1 (revised October 1975) issued by Order No. 540, dated October 31, 1975, cover general requirements. Section II of this document includes administrative conditions deemed necessary for the administration of National Forest System (NFS) lands. Section III covers specific resource requirements for protection and utilization of NFS lands.

II. Standard Forest Service Conditions

Condition No. 1: Modification of 4(e) Conditions After Biological Opinion or Water Quality Certification

The Forest Service reserves the right to modify these conditions, if necessary, to respond to any Final Biological Opinion, Section 18 conditions for this Project issued by the United States Fish and Wildlife Service or National Oceanographic and Atmospheric Administration Fisheries Service, or any Water Quality Certification issued for this Project by the State Water Resources Control Board.

Condition No. 2: Approval of Changes

Notwithstanding any license authorization to make changes to the project, when such changes directly affect National Forest System lands, the Licensee shall obtain written approval from the Forest Service prior to making any changes in any constructed Project features or facilities, or in the uses of project lands and waters or any departure from the requirements of any approved exhibits filed with the Commission. Following receipt of such approval from the Forest Service, and a minimum of 60-days prior to initiating any such changes, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service for such changes. The Licensee shall file an exact copy of this report with the Forest Service at the same time it is filed with the Commission. This condition does not relieve the Licensee from the amendment or other requirements of Article 2 or Article 3 of this license.

Condition No. 3: Consultation

Each year, the Licensee shall consult with the Forest Service with regard to measures needed to ensure protection and utilization of the National Forest resources affected by the project. The date of the consultation meeting will be mutually agreed to by the Licensee and the Forest Service but in general will be held 60 days prior to the beginning of the recreation season to facilitate implementation of flow management requirements and recreational management activities. Representatives from the U.S. Fish and Wildlife Service, California Department of Fish and Game, or other interested agency representatives concerned with operation of the project may request to attend the meeting.

Consultation shall include, but not be limited to:

- A status report regarding implementation of license conditions;
- Results of any monitoring studies performed over the previous year in formats agreed to by the Forest Service and the Licensee during development of study plans;
- Review of any non-routine maintenance;
- Discussion of any foreseeable changes to project facilities or features;
- Discussion of any necessary revisions or modifications to plans approved as part of this license;

- Discussion of needed protection measures for species newly listed as threatened, endangered, or sensitive or, changes to existing management plans that may no longer be warranted due to delisting of species or, to incorporate new knowledge about a species requiring protection; and
- Discussion of elements of current year maintenance plans, e.g. road maintenance.

A record of the meeting shall be kept by the Licensee and shall include any recommendations made by the Forest Service for the protection of National Forest System lands and resources. The Licensee shall file the meeting record, if requested, with the Commission no later than 60 days following the meeting.

A copy of the certified record for the previous water year regarding instream flow, monitoring reports, and other pertinent records shall be provided to the Forest Service at least 10 days prior to the meeting date, unless otherwise agreed.

Copies of other reports related to project safety and non-compliance shall be submitted to the Forest Service concurrently with submittal to the FERC. These include, but are not limited to: any non-compliance report filed by the licensee, geologic or seismic reports, and structural safety reports for facilities located on or affecting NFS lands.

Subject to any restrictions contained in any agreement with the Licensee, the Forest Service reserves the right, after notice and opportunity for comment, to require changes in the project and its operation through revision of the Section 4(e) conditions to accomplish protection and utilization of National Forest lands and resources.

Condition No. 4: <u>Surrender of License or Transfer of Ownership</u>

Prior to any surrender of this license, the Licensee shall provide assurance acceptable to the Forest Service that Licensee shall restore any project area directly affecting National Forest System lands to a condition satisfactory to the Forest Service upon or after surrender of the license, as appropriate. To the extent restoration is required; Licensee shall prepare a restoration plan which shall identify the measures to be taken to restore such National Forest System lands and shall include adequate financial mechanisms to ensure performance of the restoration measures.

In the event of any transfer of the license or sale of the project, the Licensee shall assure that, in a manner satisfactory to the Forest Service, the Licensee or transferee will provide for the costs of surrender and restoration. If deemed necessary by the Forest Service to assist in evaluating the Licensee's proposal, the Licensee shall conduct an analysis, using experts approved by the Forest Service, to estimate the potential costs associated with surrender and restoration of any project area directly affecting National Forest System lands to Forest Service specifications. In addition, the Forest Service may require the Licensee to pay for an independent audit of the transferee to assist the Forest Service in determining whether the transferee has the financial ability to fund the surrender and restoration work specified in the analysis.

Condition No. 5: Hazardous Substances Plan

Within 1 year of license issuance, the Licensee shall file with the FERC a plan approved by the Forest Service for oil and hazardous substances storage and spill prevention and cleanup for Project facilities on or affecting National Forest System lands. In addition, during planning and prior to any new construction or maintenance not addressed in an existing plan, the Licensee shall notify the Forest Service, and the Forest Service shall make a determination whether a plan approved by the Forest Service for oil and hazardous substances storage and spill prevention and cleanup is needed.

At a minimum, the Plan must require the Licensee to (1) maintain in the Project area, a cache of spill cleanup equipment suitable to contain any spill from the Project; (2) to periodically inform the Forest Service of the location of the spill cleanup equipment on National Forest System lands and of the location, type, and quantity of oil and hazardous substances stored in the Project area; (3) provide an outline of Licensee's procedures for reporting and responding to releases of hazardous substances, including names and phone numbers of all emergency response personnel and their assigned responsibilities, and (4) inform the Forest Service immediately of the nature, time, date, location, and action taken for any spill affecting National Forest System lands and Licensee adjoining property.

Condition No. 6: Maintenance of Improvements on or Affecting NFS Lands

The Licensee shall maintain all its improvements and premises on National Forest System (NFS) lands to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the Forest Service. Disposal will be at an approved existing location, except as otherwise agreed by the Forest Service.

Condition No. 7: Pesticide Use Restrictions

Pesticides may not be used on National Forest System (NFS) lands or in areas affecting NFS lands to control undesirable woody and herbaceous vegetation, aquatic plants, insects, rodents, trash fish, etc., without the prior written approval of the Forest Service. During the Annual Consultation meeting described in Condition 3, the Licensee shall submit a request for approval of planned uses of pesticides for the upcoming year. The Licensee shall provide at a minimum the following information essential for review: whether pesticide applications are essential for use on NFS lands, specific locations of use, specific herbicides proposed for use, application rates, dose and exposure rates, safety risk and timeframes for application. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the report was submitted. In such an instance, an emergency request and approval may be made.

Pesticide use will be excluded from NFS lands within 500 feet of known locations of California red-legged frog, Mountain yellow-legged frog or Foothill yellow-legged frog. Application of pesticides must be consistent with Forest Service riparian conservation objectives.

The Licensee shall use on National Forest System lands only those materials registered by the U. S. Environmental Protection Agency for the specific purpose planned. The Licensee must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers. The Licensee may also provide an Integrated Pest Management Plan that describes planned pesticide use on a regular basis for the term of the license. Submission of this plan will not relieve the Licensee of the responsibility of annual notification and review.

Condition No. 8: Erosion Control Measures Plan

Sixty days prior to beginning any new construction or non-routine maintenance projects with the potential for causing erosion and/or stream sedimentation on or affecting National Forest System lands (including but not limited to planned recreation-related construction), the Licensee shall file with the FERC an Erosion Control Measures Plan that is approved by the Forest Service. The Plan shall include measures to control erosion, stream sedimentation, dust, and soil mass movement.

The plan shall be based on actual-site geologic, soil, and groundwater conditions and shall include:

1. A description of the actual site conditions;
2. Detailed descriptions, design drawings, and specific topographic locations of all control measures;
3. Measures to divert runoff away from disturbed land surfaces;
4. Measures to collect and filter runoff over disturbed land surfaces, including sediment ponds at the diversion and powerhouse sites;
5. Revegetation of disturbed areas in accordance with current direction on use of native plants and locality of plant and seed sources;
6. Measures to dissipate energy and prevent erosion; and,
7. A monitoring and maintenance schedule.

Condition No. 9: Existing Claims

This license is subject to all valid rights and claims of third parties. The United States is not liable to the Licensee for the exercise of any such right or claim.

Condition No. 10: Compliance with Regulations

The Licensee shall comply with the regulations of the Department of Agriculture for activities on National Forest System lands, and all applicable Federal, State, county, and municipal laws, ordinances, or regulations in regards to the area or operations on or directly affecting National Forest System lands, to the extent those laws, ordinances or regulations are not preempted by federal law.

Condition No. 11: Protection of United States Property

The Licensee shall protect from damage the land and property of the United States covered by and used in connection with this license.

Condition No. 12: Indemnification

The Licensee shall indemnify, defend, and hold the United States harmless for:

- any violations incurred under any laws and regulations applicable to, or
- judgments, claims, penalties, fees, or demands assessed against the United States caused by, or
- costs, damages, and expenses incurred by the United States caused by, or
- the releases or threatened release of any solid waste, hazardous substances, pollutant, contaminant, or oil in any form in the environment related to the construction, maintenance, or operation of

the project works or of the works appurtenant or accessory thereto under the license.

The Licensee's indemnification of the United States shall include any loss by personal injury, loss of life or damage to property caused by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Indemnification shall include, but is not limited to, the value of resources damaged or destroyed; the costs of restoration, cleanup, or other mitigation; fire suppression or other types of abatement costs; third party claims and judgments; and all administrative, interest, and other legal costs. Upon surrender, transfer, or termination of the license, the Licensee's obligation to indemnify and hold harmless the United States shall survive for all valid claims for actions that occurred prior to such surrender, transfer or termination.

Condition No. 13: Damage To Land, Property, And Interests Of The United States

The Licensee has an affirmative duty to protect the land, property, and interests of the United States from damage arising from the Licensee's construction, maintenance, or operation of the project works or the works appurtenant or accessory thereto under the license. The Licensee's liability for fire and other damages to National Forest System lands shall be determined in accordance with the Federal Power Act and standard Form L-1 Articles 22 and 24.

Condition No. 14: Risks and Hazards on National Forest System Lands

As part of the occupancy and use of the project area, the Licensee has a continuing responsibility to reasonably identify and report all known or observed hazardous conditions on or directly affecting National Forest System lands within the project boundary that would affect the improvements, resources, or pose a risk of injury to individuals. Licensee will abate those conditions, except those caused by third parties or not related to the occupancy and use authorized by the License. Any non-emergency actions to abate such hazards on National Forest System lands shall be performed after consultation with the Forest Service. In emergency situations, the Licensee shall notify the Forest Service of its actions as soon as possible, but not more than 48 hours, after such actions have been taken. Whether or not the Forest Service is notified or provides consultation; the Licensee shall remain solely responsible for all abatement measures performed. Other hazards should be reported to the appropriate agency as soon as possible.

Condition No. 15: Access

The Forest Service reserves the right to use or permit others to use any part of the licensed area on National Forest System lands for any purpose, provided such use does not interfere with the rights and privileges authorized by this license or the Federal Power Act.

Condition No. 16: Surveys, Land Corners

The Licensee shall avoid disturbance to all public land survey monuments, private property corners, and forest boundary markers. In the event that any such land markers or monuments on National Forest System lands are destroyed by an act or omission of the Licensee, in connection with the use and/or occupancy authorized by this license, depending on the type of monument destroyed, the Licensee shall reestablish or reference same in accordance with (1) the procedures outlined in the "Manual of Instructions for the Survey of the Public Land of the United States," (2) the specifications of the County Surveyor, or (3) the specifications of the Forest Service. Further, the Licensee shall ensure that any such official survey records affected are amended as provided by law.

Condition No. 17: Signs

The Licensee shall consult with the Forest Service prior to erecting signs on National Forest System lands covered by the license. Prior to the Licensee erecting signs or advertising devices on National Forest System lands covered by the license, the Licensee must obtain the written approval of the Forest Service as to location, design, size, color, and message. The Licensee shall be responsible for maintaining all Licensee-erected signs to neat and presentable standards.

III. Project Specific Resource Protection Conditions

Condition 18: Streamflow

Part 1. Minimum Streamflows.

For the preservation and improvement of aquatic resources in the Project area, Licensee shall maintain specified minimum streamflows in project reaches in accordance with the Tables A-1 through A-5 below. Minimum streamflows shall commence within 60 days of License issuance, unless facility modifications are required.

Minimum streamflows shall be measured in two ways: as the 24-hour average of the flow (mean daily flow) and as an instantaneous flow. The instantaneous flow is the flow value used to construct the average daily flow value and shall be measured in time increments of at least 15-minutes. The 24-hour average flow is the average of the incremental readings from midnight of one day to midnight of the next day. Licensee shall record instantaneous 15-minute streamflow as required by US Geological Survey (USGS) standards at all gages. The minimum instantaneous 15-minute streamflow shall be at least 80 percent of the prescribed mean daily flow for those minimum streamflows less than or equal to 10 cfs and at least 90% of the prescribed mean daily flow for those minimum streamflows required to be greater than 10 cfs as set forth in Tables A-1 through A-5.

Should the mean daily flow as measured be less than the required mean daily flow set forth in Tables A-1 through A-5 but more than the instantaneous flow, Licensee shall begin releasing the equivalent under-released volume of water within 7 days of discovery of the under-release. Credit for such additional releases will not exceed 20% of the instantaneous flow amount, when used to attain the equivalent of the under-released volume.

Table A-1: Minimum Streamflows Little Grass Valley Reach
Measured at USGS gage No.11395030 (SF 3)

Release from Little Grass Valley Dam (cfs)				
Month	Water Year Type			
	Wet	Above Normal	Below Normal	Dry
October	19	15	10	10
November	19	15	10	10
December	19	15	10	10
January	19	15	10	10
February	19	15	10	10
March	19	19	19	19
April 1-7	46	46	28	26
April 8-14	73	46	36	26
April 15-21	99	46	36	26
April 22-30	126	46	36	26
May 1-15	126	99	36	26
May 16-31	126	46	28	26
June	53	46	28	19
July	19	19	15	10
August	19	19	10	10
September	19	19	10	10

Table A-2: Minimum Streamflows South Fork Diversion Reach
Measured at USGS gage No. 11395200 (SF 5)

Release from South Fork Diversion Dam (cfs)				
Month	Water Year Type			
	Wet	Above Normal	Below Normal	Dry
October	19	15	10	10
November	19	15	10	10
December	19	15	10	10
January	19	15	10	10
February	19	15	10	10
March	19	19	19	19
April 1-7	46	46	28	26
April 8-14	73	46	36	26
April 15-21	99	46	36	26
April 22-30	126	46	36	26
May 1-15	126	99	36	26
May 16-31	126	46	28	26
June	53	46	28	19
July	19	19	15	10
August	19	19	10	10
September	19	19	10	10

Table A-3: Minimum Streamflows Forbestown Diversion Reach
Measured at USGS gage No. 11396200 (SF17)

Release from Forbestown Diversion Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	**19**	**15**	**10**	**10**
November	**19**	**15**	**10**	**10**
December	**19**	**15**	**10**	**10**
January	**19**	**15**	**10**	**10**
February	**19**	**15**	**10**	**10**
March	**19**	**19**	**19**	**19**
April 1-7	**46**	**46**	**28**	**26**
April 8-14	**73**	**46**	**36**	**26**
April 15-21	**99**	**46**	**36**	**26**
April 22-30	**126**	**46**	**36**	**26**
May 1-15	**126**	**99**	**36**	**26**
May 16-31	**126**	**46**	**28**	**26**
June	**53**	**46**	**28**	**19**
July	**19**	**19**	**15**	**10**
August	**19**	**19**	**10**	**10**
September	**19**	**19**	**10**	**10**

Table A-4: Minimum Streamflows Lost Creek Diversion Reach
Measured at USGS gage No. 11396000 (SF13)

Release from Lost Creek Reservoir Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	**8**	**8**	**8**	**8**
November	**8**	**8**	**8**	**8**
December	**8**	**8**	**8**	**8**
January	**8**	**8**	**8**	**8**
February	**20**	**20**	**16**	**12**
March	**60**	**45**	**40**	**30**
April	**30**	**30**	**25**	**20**
May	**30**	**20**	**20**	**15**
June	**20**	**16**	**12**	**12**
July	**10**	**8**	**8**	**8**
August	**8**	**8**	**8**	**8**
September	**8**	**8**	**8**	**8**

Table A-5: Minimum Streamflows Slate Creek Reach
Measured at USGS gage No. 11413300 (SF 10)

Release from Slate Creek Diversion Dam (cfs) Either the natural inflow or the specified release, whichever is less				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	10	10	10	10
November	10	10	10	10
December	10	10	10	10
January	10	10	10	10
February	10	10	10	10
March	49**	49**	49**	49**
April	32	32	32	32
May	32	32	32	32
June	10	10	10	10
July	10	10	10	10
August	10	10	10	10
September	10	10	10	10

**49 cfs or outlet capacity, which ever is less, but no less than 40 cfs.

Where facility modification is required to implement the efficient release of Minimum Streamflows, the Licensee shall submit applications for permits within one year after license issuance and complete such modifications as soon as reasonably practicable but no later than two years after receipt of all required permits and approvals. Prior to completion of 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.

The Licensee shall schedule the timing of maintenance or other planned outages to avoid negative ecological effects from the resultant spills. The Licensee shall provide written notification to the Forest Service 90 days prior to any planned or scheduled maintenance outages that would affect streamflows in the South Feather Power Project bypass reaches. Notification shall include a description of Project and coordinated measures the Licensee plans to take to minimize the magnitude and duration of spills into the Project reach. The Licensee shall not proceed with the planned maintenance outage without the formal written approval of the Forest Service. The Forest Service will respond in a timely manner.

The Minimum Streamflow requirements are subject to temporary modification if required by equipment malfunction, as directed by law enforcement authorities, or in emergencies. An emergency is defined as an event that is reasonably out of the control of the Licensee and requires Licensee to take immediate action, either unilaterally or under instruction by law enforcement or other regulatory agency staff, to prevent imminent loss of human life or substantial property damage. An emergency may include, but is not limited to, natural events

such as landslides, storms or wildfires, malfunction or failure of Project works, and recreation accidents.

If the Licensee temporarily modifies the requirements of these conditions, then the Licensee shall make all reasonable efforts to promptly resume performance of such requirements and shall notify the, Forest Service and other interested or affected governmental agencies within 48 hours of the modification.

Part 2. Water Year Type.

The minimum streamflow schedules have been separated into four water year types: Wet, Above Normal (AN), Below Normal (BN), and Dry. The Licensee shall determine the water year type based on the water year forecast of unimpaired runoff in the Feather River at Oroville provided by the California Department of Water Resources Bulletin 120 report of water conditions in California each month from February through May. The water year types are defined as follows:

Wet = greater than or equal to 7.1 MAF
AN = greater than or equal to 4.0 MAF but less than 7.1 MAF
BN = greater than 2.4 MAF or equal to but less than 4.0 MAF
Dry = less than or equal to 2.4 MAF

Each February through May the Licensee shall determine the water year type based on the DWR Bulletin 120 water year forecast and shall operate for that month based on that forecast. The May forecast shall be used to establish the final water year type for the remaining months of the water year. The water year type for the months of October through January shall be based on the Department of Water Resources' Full Natural Flow record for the Feather River at Oroville, for the preceding water year. The Licensee shall provide Notice to the FS, FERC, and other interested governmental agencies of the final water year type determination within 30 days of making the determination.

The water year types from February through April shall apply from the 15th day of the month in which DWR issues Bulletin 120 to the 14th day of the next month. From May 15 to October 14, the water year type shall be based on DWR's Bulletin 120 issued in May. From October 15 through February 14, the water year type shall be based on DWR's Full Natural Flow record issued in October.

Part 3. Multiple Dry Water Years

By March 15 of the second or subsequent Dry water year Licensee shall notify the Forest Service, and other interested governmental agencies of Licensee's drought concerns. By May 1 of these same years Licensee shall consult with representatives from the Forest Service, and other interested governmental agencies to discuss operational plans to manage the drought conditions. If the parties specified above agree on a revised operational plan, Licensee may begin implementing the revised operational plan as soon as it files documentation of the agreement with the FERC. If unanimous agreement is not reached, Licensee shall submit the

revised proposed plan that incorporates as many Agency issues as possible to the FERC, as well as both assenting and dissenting comments, should they exist, request expedited approval, and implement the proposed plan until directed otherwise by the FERC.

Part 4. Streamflow Measurement.

For the purpose of determining the river stage and Minimum Streamflow below Little Grass Valley Dam, South Fork Diversion Dam, Forbestown Diversion Dam, Lost Creek, and Slate Creek Diversion Dam, Licensee shall operate and maintain the existing gages, consistent with all requirements of FERC and under the supervision of the USGS. Any modification of the gage facilities at any of these gages that may be necessary to measure the new Minimum Streamflow releases shall be completed within three years after issuance of the new Project License.

The Licensee shall measure and document all instream flow releases in publicly available and readily accessible formats. Flow data collected by Licensee from the stream gages will be reviewed by the Licensee's hydrographers as part of its quality assurance/quality control (QA/QC) protocol. Upon completion of the QA/QC process, the data will be catalogued and made available to USGS in annual hydrology summary reports. Licensee understands that the USGS will then complete their QA/QC review of the data and subsequently publish the data and post it within their electronic database that can be accessed via the Internet. The flow values (generally 15-minute recordings) used to construct the 24-hour average flows will be available to the resource agencies from the Licensee upon request.

Part 5. Ramping Rates

Ramping rates shall be empirically determined using the procedures described below and consistent with data collected in Condition 19 Aquatic Biological Monitoring Part 2, Foothill Yellow Legged Frog Monitoring Plan.

Licensee shall, as soon as reasonably possible, evaluate the change in minimum streamflows (step reduction) from one month to the next from May through July in the South Fork, Forbestown, Lost Creek and Slate Creek diversion dams for each Water Year Type. The purpose of this license condition is to determine a rate at which to implement the step reductions that would not exceed the Forest Service's target rates of water velocity and stage changes for the protection of foothill yellow legged frog (FYLF). These targets are: 1) when egg masses are likely to be present, water velocities shall be less than 0.8 feet per second (fps) measured as mean column velocity at the egg mass locations and no more than 20 percent of egg masses de-watered as a result of the May through July step reductions; 2) when tadpoles/juveniles are likely to be present, water velocities shall not change more than 0.4 fps per hour measured as mean column velocity at the tadpole/juvenile locations, with a upper threshold mean column velocity not to exceed 1.0 fps at the tadpole/juvenile locations at any time.

To make this evaluation, Licensee shall provide to the Forest Service by the first April 15 after license issuance the Licensee's expectation of the Water Year Type through July of that

year. By said April 15, Licensee shall also provide to the Forest Service for approval: 1) a brief description of the protocols that Licensee proposes to use for the sampling described below; and 2) the locations Licensee proposes for monitoring. Monitoring locations shall coincides with known sites of FYLF breeding in the following stream reaches: 1) South Fork Feather River from the confluence with Lost Creek to Forbestown Diversion Dam (SFFR/Lost Creek Reach); 2) South Fork Feather River from Forbestown Diversion Dam to Ponderosa Reservoir (Forbestown Diversion Dam Reach); and 3) Slate Creek from Slate Creek Diversion Dam to New Bullards Bar Reservoir (Slate Creek Diversion Dam Reach). For the purpose of evaluating Forest Service's target rates of water velocity and stage changes, the monitoring locations shall be representative of FYLF breeding sites in the reach. Sampling shall include the following two components:

1. Velocity and Stage Measurements. At each of the above listed Project dams, Licensee shall implement each step reduction from May through July in two approximately equal steps over two hours (e.g., a step reduction from 126 cfs to 53 cfs shall occur over two hours with a reduction at the beginning of the first hour from 126 cfs to 89 cfs, and the reduction at the beginning of the second hour from 89 cfs to 53 cfs). During each reduction, immediately prior to the reduction in flow at the dam and approximately every 30 minutes after the reduction in flow at the dam, Licensee shall measure stage (total depth in tenths of a foot) and water velocity (mean column velocity in tenths of a foot per second) at the monitoring locations. Monitoring shall continue until stage change related to the step reduction is no greater than 0.1 foot between sampling events at the monitoring location.

2. Habitat Monitoring. At the highest and lowest step reduction flow, Licensee shall map FYLF habitat availability at each monitoring location, including showing location of the edge of water. Mapping protocols shall be similar to those for FYLF habitat mapping in Silver Creek performed by the Sacramento Municipal Utility District for relicensing of its Upper American River Project relicensing (FERC Project 2100) or other protocol approved by the Forest Service.

Within 3 months of completing the sampling for a given Water Year Type, Licensee shall prepare a draft report that describes the results of the sampling, including curves which relate stage and velocity to discharge at each monitoring location sampled, and the results of the habitat mapping in appropriate plots. The report shall discuss the findings in relation to the Forest Service's water velocity and stage targets described above and recommend a ramping rate (in cfs per unit time) at each of the South Fork, Forbestown, Lost Creek and Slate Creek dams for the periods from May through July for the Water Year Type in which the sampling was performed. The report shall also include an estimate of accretion from the Project dams to the monitoring locations during the sampling, and the actual Water Year Types for each month during the sampling occurred. The report shall be provided to the Forest Service for 60-day review. Within 60 days of the close of the comment period, Licensee shall file with the Commission a final report including evidence of consultation and any written comments

made by the Forest Service. Licensee shall implement the specific ramping rate for that Water Year Type.

Licensee shall repeat the above measurements for each Water Year Type. If the expected Water Year Type in a subsequent year is the same as a Water Year Type for which monitoring has previously been performed or if data from previous years is deemed adequate by the Forest Service to address the expected Water Year Type, License shall not repeat the exercise in that year. The maximum number of years in which the sampling will occur is four.

Part 6. Lost Creek Reservoir Entrainment Plan

Within one year of license issuance and after consultation with the Forest Service and other interested governmental agencies, the Licensee shall file with the FERC for approval a plan approved by the Forest Service to mitigate for lost fish resources from the Woodleaf Power Tunnel Intake and project diversions.

The Plan will describe a wild fish supplementation program to mitigate for lost fish resources in the South Fork Feather River and Slate Creek and in Sly Creek and Lost Creek reservoirs. The Licensee shall develop the wild fish supplementation program in consultation with the Forest Service and other state and federal agencies that have regulatory authority. The plan shall include the following elements: 1) the numbers of wild fish to be planted annually; 2) protocols for the capture and rearing of wild fish brood stock; 3) the methods for the spawning of wild fish brood stock and incubation of eggs; 4) the timing of planting wild stock that are free of diseases from the hatchery; and 5) the placement locations of young-of-the-year wild fish planting. The basis for determining the amount of fish to be planted shall be determined by reviewing age class distributions of rainbow trout in the Little Grass Valley Reach and the upper Slate Creek Diversion Dam Reach, and estimating the numbers of fry needed to enhance rainbow trout production toward density and biomass level observed in streams surrounding the project area. The Licensee shall be responsible for obtaining any necessary permits and approvals for plan implementation.

If fish exclusion devices are included by the Commission in the project license, the requirement for this Lost Creek Reservoir Entrainment Plan shall be null and void.

Condition 19: <u>Aquatic Biological Monitoring</u>

Part 1. Fish Monitoring Plan

Within one year of license issuance, and after consultation with the Forest Service, and other interested governmental agencies, the Licensee shall file with the FERC a fish population Monitoring Plan approved by the Forest Service describing sampling to be conducted in the project affected bypass reaches.

Specifically, the plan will describe the methods the Licensee will use to monitor fish species composition and relative abundance. The Licensee will use the same sampling methods and sample eight of the locations previously established during the relicensing surveys (SFWPA 2007). Monitoring will include collection of data on species size/age distributions and condition factors. Physical measurements and observations of stream conditions also will be made at each sampling site.

Fish surveys will be conducted in two successive years and begin in the fifth full year after implementation of new license streamflows. Fish surveys will be conducted in years 5, 6,11,12,17,18,23,24, and 29 after new minimum instream flows (MIFs) are implemented in each survey reach or at a frequency jointly agreed to by the agencies listed above. If sampling is scheduled in years with high peak flows, it may be postponed two years to avoid the potential confounding effect of high peak flows on fish recruitment and populations. Subsequent years of sampling and timing would be jointly agreed to by the agencies listed above.

When scheduling sampling site selection or field data collections, the Licensee will notify the Forest Service and other interested governmental agencies at least 30-days in advance to provide the opportunity to participate or observe. If field conditions or operational situations preclude a 30-day notification, the Licensee shall provide notice as far in advance as feasible.

The Licensee shall provide results of fish monitoring to the Forest Service, and other interested governmental agencies in a technical report at the annual consultation meeting specified in Condition No. 3 following completion of each sampling effort. In addition to describing the results, the report shall compare the results with those of previous surveys. The fish-based sampling report shall also discuss implications of the Benthic Macroinvertebrate Monitoring Report (see Part 4) regarding trends in fish abundances.

Part 2. Foothill Yellow-legged Frog Monitoring Plan

Within one year of license issuance, and after consultation with the Forest Service, and other interested governmental agencies, the Licensee shall file with the FERC an amphibian monitoring plan approved by the Forest Service. The Plan shall outline sampling to be conducted in the following reaches: Little Grass Valley Dam, South Fork Diversion Dam, SF Feather River/Lost Creek, Forbestown Diversion Dam, Slate Creek Diversion Dam, and Lost Creek Dam.

The Amphibian Monitoring Plan for the above reaches shall include targeted monitoring of Forest Service sensitive amphibians beginning no later than the first spring following license issuance and continuing at some level through out the project license period. Monitoring shall include foothill yellow-legged frogs (FYLF) population status, distribution, viability, and reproductive success. Since the new minimum streamflow conditions will alter the base flow levels and timing of flows relative to recent project operation, the following shall be assessed in detail for typical oviposition (egg-laying) and rearing (tadpole) habitats for both occupied and non-occupied habitat locations: temperature regimes; riparian vegetation establishment, encroachment and scouring; habitat conditions (water depths, velocities, bank

slopes, etc.); and river bar formation/loss. In addition, a ramping rate assessment shall be conducted. Following are brief descriptions of the required components of the Monitoring Plan:

(1) Population Monitoring – The Licensee shall develop and implement a plan to monitor the numbers of FYLF egg masses, tadpoles and adults on an annual basis during the beginning and near the end of the license. Monitoring intensity in the intervening years will be determined based on population status. The following steps for monitoring shall be used unless otherwise determined by the FS:

a. First year, full reach surveys of all project reaches and associated tributary streams. Full reach surveys shall be conducted in the following project reaches: Little Grass Valley Dam, South Fork Diversion Dam, SF Feather River/Lost Creek, Forbestown Diversion Dam, Slate Creek Diversion Dam, and Lost Creek Dam. The total linear distance of these reaches is approximately 38 miles. However, accessibility may preclude complete coverage. Up to 0.5 miles of all tributary streams shall be surveyed during full reach surveys. The total distance of surveyed reaches shall be determined by accessibility.

b. Second year repeat full reach surveys. If weather, timing of surveys, or any project operations compromise the first year full reach survey results, full reach surveys shall be conducted again in the second year.

c. Full reach surveys throughout the license period. Full reach surveys as described in step a. (above) shall be conducted once every 10 years through the license period.

d. Evaluation of full reach survey data. Forest Service and licensee will collaboratively evaluate the outcome of full reach surveys and compare them to known FYLF population densities in unregulated Sierran and North Coast California rivers. If FYLF population densities are substantially lower in SFFP reaches, licensee shall initiate targeted data collection to allow population modeling for SFFP reaches (see step e. below). If densities are comparable and robust, licensee shall continue with annual surveys at representative sites (see step f. below) for 5 subsequent years to determine population trends.

e. Population data collection (if necessary). If FYLF population densities are substantially lower than comparable populations in unregulated rivers, the licensee shall initiate detailed population data collection using methods that will allow the data to be applied to an existing population model. For at least four consecutive years, data shall be collected that will allow estimates of tadpole and adult survival rates. Methods may include capture-recapture of adults and double observer counts of tadpoles (or another method which yields an estimate of count error). The results of this data collection will be used in an existing, peer-reviewed population model for FYLF (funded by the California Energy Commission and developed in collaboration between the Forest Service Pacific Southwest Research Station, U.C. Berkeley, and Simon Fraser University scientists; Kupferberg et al. 2009). This model can be used to relate annual counts of egg masses (as a population index) to overall population status. It can also provide a population viability analysis for SF Feather populations of FYLF. Such an analysis will quantify the trajectory (i.e. stable, increasing, decreasing, time to extinction).

The development of this demographic data shall be done in consultation with, and approved by, the Forest Service.

f. Representative sites selection, annual surveys, and changes to representative site set. If full reach surveys indicate that FYLF populations are comparable to known populations from unregulated rivers, a set of representative sites shall be selected and surveyed. Representative sites will be selected based on results of full reach survey results (in steps a. and b.above). This set of sites will include one site in each of the six reaches (listed in step a., above) and may include additional sites in the reaches that are documented to have FYLF populations. Representative sites shall be long enough (in linear distance) to include known breeding sites as well as a buffer of potential breeding habitat both up and downstream. Based on site sizes provided in the license application, the linear distance to be surveyed at each site will range from 500-800m.

Visual encounter surveys shall be conducted at these representative sites with the objective of documenting the breeding effort and recruitment each year. Surveys should include counts of egg masses, tadpole groups, and young of the year frogs. If subsequent full reach surveys (in years 10, 20, or 30) document changes in the distribution of FYLF within the project area, the set of representative sites being monitored shall be re-evaluated. Barring contingencies described in step d. above and step g. below, representative sites shall be surveyed annually for the first five years following the first year full reach surveys, then once every four years thereafter. Annual surveys will again be initiated for the three years immediately prior to the start of the next relicensing period. The initial five year annual survey period must include at least three different water year categories: dry, below normal, above normal/wet. Survey years shall be added as necessary until all types are represented.

g. Revisions to monitoring plan and flow conditions. If during any FYLF monitoring, the population is documented to decline, then Forest Service and Licensee will collaboratively re-evaluate flow and temperature conditions and initiate data collection for a population viability analysis (as in step e. above).

(2) Temperature Monitoring –The Licensee shall develop a temperature monitoring study to monitor water temperatures in the river, especially in the stream margins where eggs and tadpoles occur, and to assess water temperature effects on eggs and tadpoles. The location of this monitoring will be based on information derived from the first year full-reach surveys (described in the population monitoring section above). Temperature monitoring shall bracket known FYLF breeding sites and will occur (at a minimum) at the most upstream and the most downstream sites in each occupied project reach. Temperature data shall be collected at breeding sites in stream margin areas with a few additional data collection points in margin environments upstream and downstream of each breeding site.

Data shall be collected annually during the breeding and rearing season until three water year categories (dry, below normal, above normal/wet) have been represented. Licensee shall also determine the length of the development period for eggs (from laying to hatching) and tadpoles (from egg hatching to metamorphosis) and measure the size of young of the year

frogs at metamorphosis, so that an assessment of the influence of water temperatures can be made.

Temperature data shall be provided to the Forest Service so that the effects of the new license can be evaluated. Negative effects on FYLF may be cause for reassessment of stream flow prescriptions, if determined by the FS.

(3) Habitat Monitoring –The geomorphologic and riparian vegetation response to the new flow regime in FYLF habitats shall be monitored through the course of the license. The key features of depositional bars and other breeding sites to be monitored are: size (length and width during breeding and rearing season), bank slope, substrate composition, and vegetation cover. Measurements should be taken at all breeding sites during the first full reach survey, and during those surveys in subsequent years (year 10, 20, etc.). This monitoring shall be coordinated to the extent possible with the Riparian Vegetation Monitoring and Treatment condition. If encroachment of riparian vegetation is documented in the Riparian Vegetation Monitoring and Treatment low-elevation video (at year 4), measurements of FYLF breeding site characteristics may be required prior to year 10. Substantial changes in bar geomorphology and/or riparian vegetation encroachment that may in turn affect habitat suitability for FYLF may be cause for reassessment of stream flow prescriptions, if determined by the FS.

(4) Ramping Rate Determination – The Licensee shall empirically determine the relationship between discharge (flows) to velocity and discharge to stage at egg mass and tadpole sites. Methodology for this determination may include placement of transects and field measurements of water velocity and depth at different flows, or other comparable methods. This information will be used to assess the suitability of the ramping rates prescribed in Condition 18, Part 5.

The Licensee shall provide results of amphibian monitoring in a report to the FERC, Forest Service, and other interested governmental agencies at the annual consultation meeting described in Condition No. 3. Amphibian monitoring shall enumerate changes in habitat occupied, including extent of occupation and trends in FYLF abundance. In addition to describing the results, the report shall compare the results with those of previous surveys.

Part 3 - Riparian Vegetation Monitoring and Treatment

During the summer low flow period of the fourth year after license issuance, the Licensee shall take a low-altitude (tree-top) helicopter video of the South Fork Feather River from Ponderosa Reservoir to the South Fork Diversion Dam. The Licensee shall view the video with the Forest Service and other interested governmental agencies, to identify river reach segments where live, woody, riparian vegetation appears to encroach on the active stream channel. The FS and other interested governmental agencies will identify up to three 100- to 300- foot long segments where encroachment occurs in the South Fork Feather River between the South Fork Diversion Dam and Forbestown Diversion Dam, and up to five 100- to 300-foot long segments of such encroachment in the South Fork Feather River between the Forbestown Diversion Dam and Ponderosa Reservoir.

In the summer low flow period of the fifth year after license issuance, the Licensee shall treat the selected areas. Treatment shall include removal of live, woody, riparian vegetation from the active stream channel using mechanical means, including hand-held and electric-powered tools. Chemical treatment shall not occur. The Licensee shall photograph the treated areas before and after treatment. Licensee shall document the location of the upstream and downstream ends of the treated areas using Global Positioning System (GPS) coordinates.

In the summer low flow period of the tenth year after license issuance, the agencies shall determine if it is necessary to re-treat the areas treated in the fifth year. The Licensee shall photograph the treated areas before and after the treatment, using the same photo points from the fifth year treatment to facilitate comparison of the conditions between the two years.

The review and treatment process described above shall be repeated every 10 years beginning in the fourteenth year after license issuance.

The Licensee shall notify the FS and other interested governmental agencies at least 30-days in advance of treatment so agency personnel have the opportunity to participate or observe. If field conditions or operational situations preclude a 30-day notification, SFWPA will provide notice as far in advance as feasible.

Within 60 days following each consultation and/or treatment, the Licensee shall file a brief report to document consultation and/or treatment with FERC.

Part 4 – Benthic Macroinvertebrate Monitoring

Within one year of license issuance, and after consultation with the Forest Service (FS), and other interested governmental agencies, the Licensee shall file with the FERC a Benthic Macroinvertebrate Monitoring Plan (BMMP) approved by the FS describing sampling to be conducted in the project affected bypass reaches. Surveys shall be conducted in the same years as fish population monitoring (unless an alternative monitoring schedule is approved in consultation with the State Water Board, FS, CDFG, and the USFWS).

The BMMP will be used to assess the effects to the macroinvertebrate community in the Project bypass reaches under new flow regimes and other changes stipulated by the new license. Specifically, the plan shall describe the methods the Licensee will use to monitor benthic macroinvertebrate species composition and relative abundance. Data will be used to determine trends in the macroinvertebrate community structure, as represented by metrics (e.g., taxa richness, EPT index, tolerance value), such as the California Stream Bioassessment Procedure, and determine the trends in metrics within reaches, between reaches, and in comparison with previous results.

When scheduling sampling site selection or field data collections, the Licensee shall notify the FS and other interested governmental agencies at least 30-days in advance to provide the opportunity to participate or observe. If field conditions or operational situations preclude a 30-day notification, SFWPA will provide notice as far in advance as feasible.

Licensee shall provide results of benthic macroinvertebrate monitoring to the FS, and other interested governmental agencies, in a technical report at the annual consultation meeting specified in Condition No.3 following completion of each sampling effort. In addition to describing the results, the report shall compare the results with those of previous surveys.

Condition No. 20: Recreation

Part 1. Recreation Facility Master Plan

The Forest Service will retain ownership of facilities in the Little Grass Valley Campground and recreation area on National Forest System lands. The Licensee shall operate and maintain all rehabilitations, replacements, improvements and new facilities. All such facilities will be included within the FERC Project Boundary.

The Licensee shall, after consultation with the FS file a Recreation Facility Master Plan (Plan), with the FERC, schematic in concept that illustrates the layouts, locations, sizes, shapes and relationships between existing and proposed improvements. The Plan will be reviewed and approved by the Forest Service prior to filing. The Plan will not include detailed design elements, such as construction documents, specifications, etc. For the Little Grass Valley Reservoir Recreation Area, the Facility Master Plan shall be filed with the FERC within one year of License issuance. For Sly Creek Reservoir Recreation Area, the Facility Master Plan will be filed with the FERC within three years of License issuance.

For the Little Grass Valley Reservoir Recreation Area, the Plan shall include the following sites:

1) Little Beaver Campground Loop A (maximum physical capacity of 41 campsites)
2) Little Beaver Campground Loop B (39 campsites)
3) Little Beaver Campground Loop C (40 campsites)
4) Red Feather Campground (60 campsites)
5) Running Dear Campground (40 campsites)
6) Horse Camp Campground (10 campsites)
7) Wyandotte Campground (30 campsites)
8) Black Rock Tent Campground (10 campsites)
9) Black Rock RV Campground (12 RV sites)
10) Tooms Recreation Vehicle (RV) Campground (20 RV sites)
11) Blue Water Beach Day Use Area (50 PAOT)
12) Pancake Beach Day Use Area (50 PAOT)
13) Maidu Boat Launch (50 VAOT)
14) Tooms Boat Launch (30 VAOT)
15) Black Rock Boat Launch (70 VAOT)
16) Maidu Amphitheater
17) Little Grass Valley Dam ABA and FSORAG Accessible Fishing Trail and Toilet.
18) Peninsula Tent Campground

For Sly Creek Reservoir Recreation Area, the Plan will include the following sites:

1) Sly Creek Campground (maximum physical capacity of 30 campsites)
2) Strawberry Campground (17 campsites)
3) Mooreville Day Use Area (25 PAOT)
4) Mooreville Boat Launch (24 VAOT)
5) Strawberry Car-top Boat Launch (8 VAOT).
7) Sly Creek OHV Use Area (pending designation)

Consultation and Plan Review

Over the term of the new license, consultation shall occur, as necessary to ensure that the goals and objectives of the Plan are being met and the proposed measures are implemented. Consultation activities that will be conducted during the new license term shall include annual consultation meetings and periodic reporting of recreation use as described below.

The Licensee shall also consult with appropriate Native American groups to discuss protection of Cultural Resources at specific recreation sites where major rehabilitation is being planned. the Licensee shall also consult with other identified stakeholders as appropriate. The Licensee shall include a record of any such meetings with the planning documentation of the rehabilitation projects.

Annual Coordination Meeting

Each year during the term of the license, the Licensee shall arrange to meet with the Forest Service for an annual meeting to discuss the measures needed to ensure protection, utilization and improvement of the recreation facilities addressed in the Plan. The date of the meeting will be mutually agreed to by the Licensee and the Forest Service, but in general will be held within the first 90 days of each calendar year.

At the annual meetings, the Licensee and the Forest Service will coordinate the long-term planning and implementation schedule for the rehabilitation of existing recreation facilities, and development of the new capital improvements proposed by the Licensee in this Plan, identify any revisions needed, and make any adjustments to the Plan or schedule as deemed appropriate. Any substantive revisions to the Plan or implementation schedule shall be approved by the Forest Service prior to submittal to the Federal Energy Regulatory Commission (FERC) for review and approval.

During the annual meeting with the Forest Service, the Licensee shall review the status of recreation projects from the previous year. This will include conceptual and site plans, rehabilitation of existing recreation facilities, the establishment of new recreation facilities, and any other recreation measures or program that was implemented or is planned.

The Licensee shall provide annual economic data associated with the recreation facilities, including revenues and expenditures for operations, maintenance and improvements. Financial forecasting for a period of no less than three years will be provided to the FS with the purpose of prioritizing and detailing planned site rehabilitation over that time period.

At the annual coordination meeting, the Licensee and the Forest Service may consider potential adjustments in specific actions or schedules, if appropriate. Work on recreation facilities scheduled for the upcoming year will be presented to the Forest Service for review and will include logistical and coordination planning and an implementation schedule. At the coordination meetings, the Licensee shall provide the Forest Service with a summary list of the recreation facilities scheduled for rehabilitation and any other Plan measures or programs to be implemented. The Licensee and the Forest Service will identify any coordination needs in regards to other Forest Service projects being implemented in the vicinity. This includes permitting requirements and other key resources that will need to be protected from potential impacts associated with the implementation of the scheduled recreation projects. The Forest Service shall be asked to approve any revisions to the schedule, and the revised schedule will be submitted to the FERC.

Within 60 days following such coordination, the Licensee shall file with the FERC evidence of the meeting, which summarizes any comments made by the Forest Service, and any agreements or Plan revisions that were reached by the Licensee and the Forest Service.

Periodic Review and Reporting

At least once every six years, the Licensee shall complete a Recreational Use and Facilities Condition Survey, as agreed upon by the Forest Service and the Licensee, at the sites listed in the Plan. The survey will be designed to determine trends of use, condition of facilities, the number of days parking capacity is met or exceeded, and whether resource damage is occurring. The Licensee shall use the collected data and Forest Service data when available. When the data indicates a need for increased campground facilities, the Licensee and the Forest Service will address the need through this periodic Plan review process.

Prior to the initial filing of the Plans for both Little Grass Valley Reservoir and Sly Creek Reservoir Recreation Areas, the Licensee shall review and update facility condition surveys undertaken in preparation of the re-licensing effort. In addition, shared infrastructure elements, including utilities and roads will be surveyed. The Forest Service shall be consulted during the survey process for the opportunity to provide pertinent information and concur with the findings.

Over the term of the Project license, unforeseen recreation needs, changes in visitor preferences and attitudes, and new recreation technologies may occur. The frequency with which the Plan is revised or updated will depend on significant changes to existing conditions, monitoring results, and management responses made over time. The frequency of Plan updates shall be based on consultation with the Forest Service during coordination meetings and periodic reviews of recreation use and facilities condition reports, and through other appropriate sources. Agreed upon changes to this Plan shall be incorporated into a revised document or an amendment to this document. After approval by the Forest Service, the revised plan shall be submitted to FERC for approval.

Factors that may trigger a revision include:

- Revisions and updates to Plumas National Forest Land and Resource Management Plan.

- Substantial changes (>75% change) in the National Visitor Use Monitoring (NVUM) system for the Plumas National Forest, or similar survey conducted by the Forest Service.

- Catastrophic natural events, such as major forest fires or natural disasters, and significant effects of social disorder.

- New federal or state policies, regulations, and laws that significantly affect recreation resources in the Project area.

- Documentation of significant changes in demographic use patterns, visitor needs, recreation preferences or other cultural factors affecting recreation facilities within the Project area.

Once every six years, in compliance with Regulation 18 CFR §8.11, the Licensee shall file Form No. 80 Licensed Hydropower Development Recreation Report with the FERC. This is a FERC approved form that is used to report existing recreational use at developments within projects.

Site Plans and Implementation

The Plan shall establish a schedule for the Licensee to complete Site Plans and implementation for all recreation sites listed for Little Grass Valley Reservoir and Sly Creek Reservoir Recreation Areas. All site plans shall be completed within the first five years of the license period unless otherwise agreed by the Licensee and the Forest Service.

The Site Plan shall include:

- A description of pertinent management objectives for the site.

- An existing conditions survey and inventory of all facilities, including roads, utilities and all existing features.

- Conceptual plan, design narrative and specific proposed rehabilitation and new construction. The measures will be consistent with those described below for each facility. In preparing each site plan, the Licensee, in consultation with the Forest Service, shall assess the current condition of all components in the facility, and changes in use patterns. If the Licensee proposes to exclude components listed in this measure for replacement or rehabilitation, the Licensee shall clearly describe in the Site Plan the reason for its proposal (e.g., component recently replaced, no longer needed, or in good condition) and obtain Forest Service agreements.

- A schedule for completion of rehabilitation and construction of new facilities for the site. Work required at any site shall be integrated for all site features and scheduled to occur in order to maximize construction efficiency and minimize public disruption. Rehabilitation

at a campground, for example, should include utilities, roads, facilities and amenities at once or consecutively, to the extent that substantial completion for the entire site is achieved in one activity period. Phasing for site rehabilitation is detailed in discussion of Roads, Parking and Campground Vehicle Spurs.

- A Re-vegetation Plan that shall be completed within 5 years of license issuance for all developed facilities within the FERC license boundary

The Licensee shall be responsible for all construction related to maintenance including preparation of all necessary engineering specifications and detailed construction drawings needed for maintenance (not required to be included in the Site Plans), shall obtain all necessary regulatory approvals and permits for the work, and shall select and manage a contractor to perform the construction. The statement shall specify that, prior to performing any ground-disturbing activities; the Licensee will obtain Forest Service approval of all proposed construction, including appropriate specifications, drawings, calculations, construction procedures and construction testing.

At a minimum, each Site Plan shall include the following features as appropriate:

Roads, Parking Areas and Campground Vehicle Spurs - Each Site Plan shall include rehabilitation of all existing roads and parking areas within the facility, in addition to all campground vehicle spurs at each facility, as determined by a Paving Condition Survey performed by the Licensee and approved by a qualified Forest Service engineer. Specifically, the Licensee shall repave (asphalt), re-stripe parking areas, install new curbs where existing paved parking areas are present, including installing vehicle barriers at each parking area. The Licensee will re-pave/overlay (with asphalt) and widen to no less than 20 feet, all campground circulation roads; and install vehicle barriers. Where necessary, the Licensee shall re-install and maintain trash bins and pads in a designated area adjacent to parking areas with existing trash bins and pads. At a minimum, where unpaved, gravel parking areas exist; the Licensee shall re-gravel, grade and clear the parking area and re-install vehicle barriers, as needed. The Licensee shall repave or overlay (asphalt) all campsites spurs that are currently paved and install vehicle barriers at each new spur (Horse Camp does not have paved spurs). Approximately 20 percent of the parking spurs per campground (excluding Little Beaver Campground Loop C) shall be lengthened to 16 feet wide and 50 feet long in order to accommodate larger RV's and universal accessibility (the number and locations of these spurs will depend on the site features and layout); while each of the remaining spurs shall be a minimum of 12-feet wide and 30-feet long unless agreed between the Licensee and qualified Forest Service engineer that larger overall sites are necessary and practical within the existing facility footprint.

Reconstruction of roads, parking areas and vehicle spurs shall occur on a recreation area-wide basis and will be completed in three phases. All roadwork associated with an individual facility (campground, for example) shall be completed at one time. Roads shall be realigned as appropriate to accommodate RV sight and turning radius requirements. Unless otherwise agreed to by the Licensee and Forest Service, at least one-third of all the roads, parking areas and vehicle spurs in each facility shall be rehabilitated at the end of each of the three phases

with all roads and parking areas in the recreation area replaced by the end of the third phase. At the Little Grass Valley Reservoir Recreation Area, Phase 1 will extend from the date the Commission approves the applicable Site Plans through the fifth year after license issuance. Phase 2 will extend from end of Phase 1 through the tenth year after license issuance. Phase 3 will extend from the end of Phase 2 through the fifteenth year after license issuance. At the Sly Creek Reservoir Recreation Area, Phase 1 will extend from the date the Commission approves the applicable Site Plans through the tenth year after license issuance. Phase 2 will extend from end of Phase 1 through the fifteenth year after license issuance. Phase 3 will extend from the end of Phase 2 through the twentieth year after license issuance. The Licensee, within one year of each phase's implementation, shall consult with the Forest Service to determine which roads, parking areas and vehicle spurs shall be replaced during the next phase.

Phasing of roadwork requires coordinated phasing of other associated site features due to timing considerations required above. In addition, the main access road at Little Grass Valley Reservoir, USFS Road 22N57, shall be rehabilitated and repaved by the Licensee from the intersection of County Road 514 to the intersection of Road 22N68 by the end of Phase 2.

Fire Rings, Grills and Picnic Tables - Each Site Plan shall include replacement of all existing fire rings and grills within the facility with new universally accessible fire ring and grill combination units that meet Forest Service standards at the time of design, and the replacement of all picnic tables within the facility with new tables that are universally accessible, meet Forest Service standards at the time of design, and are constructed of alternative and/or sustainable materials (i.e. recycled plastic, concrete, etc.).

Replacement of the fire rings, grills and picnic tables shall occur on a recreation area-wide basis and shall be completed in four phases with all fire rings, grills and picnic tables replaced by the end of the fourth phase. As described below, one-quarter of all the fire rings, grills and picnic tables shall be replaced within one year of license issuance (Phase 1). Phase 2 will extend from the end of Phase 1 through the fifth year after license issuance. Phase 3 will extend from the end of Phase 2 through the tenth year after license issuance, and Phase 4 will extend from the end of Phase 3 through fifteenth year after license issuance. With the exception of Phase 1 which is discussed below, the Licensee, within one year of each phase's implementation, shall consult with the Forest Service to determine which fire rings, grills and picnic tables will be replaced during the next phase.

Campsites - Tent camping unit should include at least 12-by-16-foot, level tent pad, table, and fire ring/grill. An RV camping unit should provide at least 225 square feet of level usable camping space next to the spur, as well as a table and fire ring/grill.

Signs - Each Site Plan shall include replacement of all existing entrance signs, directional signs, information/bulletin signs and trailhead signs, as needed. The Licensee shall replace signs with a sign of a similar design, and at least to the same construction as currently exist and that meet Forest Service standards at the time of design. Alternative materials may be used (i.e. recycled plastic, metal, etc.). The Licensee will coordinate with the Forest Service

on the placement of all signs, including placement of the Forest Service logo on the signs, as appropriate.

Campground Water and Waste-water Systems - Each Site Plan shall include rehabilitation of the existing water and waste-water systems at each facility unless the Licensee and Forest Service agree that the upgrade is not necessary at any or all of the facilities. The rehabilitation at each facility will include existing distribution piping, system connections, water hydrants, septic systems and associated components.

ABA and FSORAG Accessible Campsites and Restroom Facilities - Each campground Site Plan shall include the replacement of a number of current campsites and the replacement or retro-fitting of restrooms with new campsites and restrooms that meet ABA and FSORAG accessibility requirements at the time the campsites and restrooms are designed. The Licensee and Forest Service will select the campsites based on site features, slope, proximity to restrooms and other campground facilities or attractions. At each retrofitted campsite, the Licensee shall remove existing barriers and campsite components and install the following ABA and FSORAG accessibility components: picnic table, fire ring/grill, site marker, tent pad, and paved (asphalt) parking spur with barriers. All accessible parking spurs shall be at least 16 feet wide. In addition, each restroom facility shall provide an ABA and FSORAG accessible path from the campground circulation road and/or adjacent ABA and FSORAG accessible campsites to the restroom facility, and one ABA and FSORAG accessible drinking fountain and water hydrant (a combination fountain/hydrant unit may be used). Each restroom facility will maintain the same general current footprint and number of toilets, sinks, and stalls (unless otherwise noted below).

Other Amenities – Site Plans shall include rehabilitation of all miscellaneous improvements as determined necessary by condition survey or operational considerations, and any needed capitol improvements that are determined to be needed to address public need and safety.

The steps and anticipated timing for completing the work required for the development and implementation of Site Plans shall include the following:

Year one – Based on consultation with the FS, the Licensee shall complete the planning and design documents describing the recreation facility that include a Design Narrative and a Conceptual Plan. Management objectives, design criteria, and constraints associated with the major rehabilitation of a recreation facility shall include: (a) management objectives; (b) design criteria, including criteria on type and color of materials and accessibility; (c) existing physical conditions; (d) any rehabilitation and new construction; (e) anticipated management problems that design may minimize; (f) site capacity, durability, and protection; (g) user safety; and (h) interpretive services.

The Concept Plan shall include a preliminary graphic illustration of proposed facilities and utilities in relationship to existing site features, facilities, and utilities, and shall communicate proposed development ideas or alternatives. The Concept Plan may include enlargements of the area that indicate placement and orientation of the proposed facilities. This may include the use of aerial photography or topographic maps.

Any required NEPA compliance process would be initiated by the Licensee following Forest Service approval of the Design Narrative and Conceptual Plan.

Year two – Upon completion of the Forest Service National Environmental Policy Act (NEPA) compliance process or upon a determination that the activity is exempt from NEPA; the Licensee shall prepare a Site Plan that is consistent with the Concept Plan that is approved or revised by the Forest Service. The Site Plan shall be prepared in consultation with the Forest Service. The goal of this step is to: 1) develop design drawings for the recreational features described in this Plan; 2) identify site-specific erosion and sedimentation control measures that will be used; (3) identify any necessary measures to address traffic circulation and parking issues associated with recreation use during the reconstruction activity; and (4) develop an implementation schedule. If no NEPA analysis is conducted, this step shall also involve review of the cultural resource inventory and biological resource inventories, and identification of appropriate procedures to avoid impacts to other key resources at the site. Upon Forest Service approval of the Site Plan, the Licensee shall prepare a professionally engineered Construction Plan for submittal to the Forest Service. Within 60 days following Forest Service approval, the Licensee shall file the Construction Plan with the Commission for approval.

Years three through five – the Licensee shall conduct the contracting, planning and coordination in preparation of construction activities in year three. The Licensee shall strive to complete the rehabilitation of the recreation facility between years four and five, based on Commission approval, CPUC cost recovery, and Forest Service coordination. Upon CPUC approval of the cost recovery and after further consultation with the Forest Service to ensure construction activities are coordinated with Forest Service management of the recreational resources, the Licensee shall commence rehabilitation of the recreation facility. The Licensee shall make a good faith effort to complete the rehabilitation of any one campground or picnic area within two years of commencement of reconstruction activities, so that the facility is not closed for more than two calendar years.

During this five-year period, the Licensee and the Forest Service will, during the annual consultation meeting, review the status of recreation facilities proposed for rehabilitation. Upon agreement by both the Licensee and the Forest, the recreation facility rehabilitation schedule may be revised, as needed.

“Rehabilitation” includes reconditioning or replacing an existing fixed asset or any of its components in order to restore the functionality or life of the asset. “Replacement” is the substitution or exchange of an existing fixed asset or component with one having essentially the same capacity and purpose. The decision to replace or recondition a fixed asset or component is usually reached when replacement is more cost effective or more environmentally sound. Replacement of an asset or component usually occurs when it nears or has exceeded its useful life.

The Licensee shall be responsible for the full cost for rehabilitation of all recreation facilities included in the license. The Licensee shall be responsible for performing all needed

rehabilitation activities through the provision of necessary personnel, equipment, materials, and management. The Licensee shall be responsible to replace/recondition recreation features currently existing at the recreation facilities.

Recreation facility rehabilitation projects shall be designed and constructed after review of applicable Forest Service specifications and standards at the time of construction including the Forest Manual direction concerning Outdoor Recreation Accessibility Guidelines and the Forest Service Trails Accessibility Guidelines.

The renovated recreational facilities shall meet applicable ADA requirements regarding accessibility at campgrounds at the time of facility design and as feasible. The renovated facilities may be different from these requirements depending on topography, vegetation, cultural and archaeological resources, feasibility, practicality, preserving the primitive character of campgrounds, and the current design standards during the time of the Project design and construction.

At the time of preparation of these license conditions, the Forest Service has identified the following Capital Improvement Projects for construction by the Licensee:

Groundwater potable water well construction for the east shore facilities at Little Grass Valley Reservoir: standards. The well should be constructed in conjunction with replacement of the water main distribution system serving associated facilities. The well and distribution system shall be completed within five years of license issuance.

Horse Camp (Little Grass Valley Reservoir) horse watering supply and distribution system: A system for providing water for horses at the camp shall be developed within 10 years of license issuance.

Trail Construction. Opportunities to extend paved or native surfaced trails shall be explored in developing the Plan. Greater pedestrian connectivity of sites and features is desired. Extended construction of a paved trail in the vicinity of east shore facilities of Little Grass Valley Reservoir is one such opportunity. Trail construction should coincide with work to associated sites.

Sly Creek OHV Use Area Amenities: There is a current proposal to designate the borrow site for dam construction near Sly Creek Campground as an open OHV use area. Undetermined amenities such as parking and off-loading ramps may be desired upon successful designation. Specific proposals, if applicable, shall be evaluated during the annual consultation process.

FS or the Licensee may suggest Capital Improvements in the future as a result of user capacity issues, demographic shifts or other unforeseen considerations. Such capital improvement proposals will be evaluated in annual collaborations or periodic reviews and implemented by agreement and prioritized within the schedule of the Plan.

Part 2. Recreation Measures

This section describes the recreation measures that shall be implemented by the Licensee for the projects during the term of the license. The programs associated with the recreational facilities are described below and include:

- • Recreation Facility Operational Maintenance
- • Reservoir Recreation
- • Interpretative Program

Recreation Facility Annual Operational Maintenance

The Licensee shall be responsible for the annual maintenance of all listed facilities at Little Grass Valley and Sly Creek Reservoirs. Operational maintenance activities keep fixed assets in an acceptable condition and include repairs, painting, replacement of minor parts and minor structural components. Operational maintenance, or reconditioning, neither materially adds to the value of the property nor appreciably prolongs its life. Operational maintenance excludes activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than those originally intended. The work serves only to keep the facility in an ordinary, efficient operating condition. Examples include, but are not limited to interior painting, repair of broken windows, light bulb replacement, cleaning, unplugging drains, greasing, servicing, inspecting, oiling, adjusting, tightening, aligning, sweeping, etc.
The annual operational maintenance activities are completed at a higher frequency than repair activities. Repair activities occur less frequently and are the result of wear from normal use, naturally occurring damage, and/or acts of vandalism. The repair of recreation features, which could include some limited replacement of items, should be conducted on an as-needed basis as soon as practical after being identified through routine facility inspections. Recreation features should be inspected during the routine maintenance visits and any recreation features that are identified as broken and in need of repair/replacement shall be noted.

Maintenance activities may include work needed to meet laws, regulations, codes, and other legal direction (such as compliance with the Americans with Disabilities Act (ADA)) as long as the original intent or purpose of the fixed asset is not changed.

Reservoir Recreation

The Licensee shall support reservoir-based recreation consistent with lake levels required by the license conditions. The Licensee shall provide seasonal lake level data and monitor boat usage and fishing activities. Annual meetings will use this information in determining whether related facilities are providing public need and safety and what facility or operational considerations may provide needed improvement.

Interpretive Program

The Licensee shall collaborate on current and future interpretive programs provided for the public. Opportunities to improve interpretive features for the public, kiosks or trail placards, for example, should be incorporated in site plans, as appropriate.

Protection of Other Resources

The Licensee shall consult with Forest Service specialists and other appropriate resource agencies to ensure that its recreation rehabilitation and enhancements are consistent with the overall goals and specific requirements of other license conditions and other FERC-approved management plans that are protective of other key resources.

The Licensee shall initiate consultation with Native Americans to determine appropriate protection and mitigation measures if potential recreational facility construction or rehabilitation impacts to cultural resources are identified.

Condition No. 21: Fire Prevention, Response, and Investigation

Within one year of license issuance, the Licensee shall file with the Commission a Fire Prevention and Response Plan that is approved by the Forest Service, and developed in consultation with appropriate State and local Fire agencies. The Plan shall set forth in detail the Licensee's responsibility for the prevention (excluding fuel treatment as described in Condition No. 22) reporting, control, and extinguishing of fires in the vicinity of the Project resulting from Project operations.

At a minimum the plan shall address the following categories:

1. Fuels Treatment/Vegetation Management: Identification of fire hazard reduction measures to prevent the escape of project-induced fires.

2. Prevention: Availability of fire access roads, community road escape routes, helispots to allow aerial firefighting assistance in the steep canyon, water drafting sites and other fire suppression strategies. Address fire danger and public safety associated with Project-induced recreation, including fire danger associated with dispersed camping, existing and proposed developed recreation sites, trails, and vehicle access.

3. Emergency Response Preparedness: Analyze fire prevention needs including equipment and personnel availability.

4. Reporting: Licensee shall report any Project-related fires to the Forest Service within 24 hours.

5. Fire Control/Extinguishing: Provide the Forest Service a list of the locations of available fire suppression equipment and the location and availability of fire suppression

personnel. Assure fire prevention measures will conform to water quality protection practices as enumerated in USDA, Forest Service, Pacific Southwest Region, Water Quality Management for National Forest System Lands in California-Best Management Practices.

Investigation of Project Related Fires

The Licensee agrees to fully cooperate with the Forest Service on all fire Investigations. The Licensee shall produce upon request all materials and witnesses not subject to the attorney-client or attorney work product privileges, over which the Licensee has control, related to the fire and its investigation including:

- All investigation reports
- All witness statements
- All photographs
- All drawings
- All analysis of cause and origin
- All other, similar materials and documents regardless of how collected or maintained

The Licensee shall preserve all physical evidence, and give custody to the Forest Service of all physical evidence requested. The Forest Service shall provide the Licensee with reasonable access to the physical evidence and documents the Licensee requires in order to defend any and all claims, which may arise from a fire resulting from Project operations, to the extent such access is not precluded by ongoing criminal or civil litigation.

Condition No. 22: <u>Fuel Treatment/Vegetation Management Plan</u>

Within one year of License issuance, the Licensee shall file with the Commission a Fuel Treatment/Vegetation Management Plan, approved by the Forest Service, for the purpose of identifying hazardous vegetative conditions surrounding Project facilities that may accelerate the spread of a wildfire onto National Forest System lands as a result of Licensee activities or might place Project facilities in jeopardy from an approaching fire. At a minimum the Plan shall include provisions for: (1) analysis of live and dead fuel loading and potential fire behavior within 300 feet of project features; (2) treatments to be employed to reduce the hazard; (3) implementation schedule; and (4) provisions for the reassessment of hazard at 5 to 8 year intervals depending on regrowth of vegetation. Treatments extending onto adjacent National Forest System lands shall be approved by the Forest Service. When practicable coordinate implementation and accomplishment of hazard reduction activities with those of the Forest Service.

Condition No. 23: Heritage Resources

Within one year of license issuance, the Licensee shall file with the Commission, a Heritage Properties Management Plan (HPMP), approved by the Forest Service for the purpose of protecting and interpreting heritage resources. The Licensee shall consult with the State Historic Preservation Officer, Native American Tribes, Forest Service, and other applicable agencies and communities during the preparation of the plan. The HPMP will be incorporated into the Programmatic Agreement of which the Forest Service will be a signatory. The HPMP, as appropriate, shall accurately define the area of potential effects, including effects of implementing Section 4(e) conditions, and take into account project effects on National Register properties, Native American traditional cultural values; and Project impacts to archaeological properties on National Forest System lands. The HPMP shall also provide measures to mitigate the identified impacts, a monitoring program, and management protocols for the ongoing protection of archaeological properties.

If prior to, or during, ground-disturbing activities or as a result of project operations, items of potential cultural, historical, archeological, or paleontological value are reported or discovered, or a known deposit of such items is disturbed on National Forest System lands and Licensee adjoining fee title property, the Licensee shall immediately cease work in the affected area. The Licensee shall then notify the Forest Service and shall not resume work on ground-disturbing activity until appropriate evaluation of the find has been completed and Licensee has received written approval from the Forest Service.

If deemed necessary, the Forest Service may require the Licensee to perform recovery, excavation, and preservation of the site and its artifacts at the Licensee's expense, through provisions of an Archaeological Resources Protection Act permit issued by the Forest Service.

Condition No. 24: New Special Status Species Surveys

The Licensee shall, beginning the first full calendar year after license issuance, in consultation with the Forest Service, annually review the current list of special status plant and wildlife species (species that are Forest Service Sensitive or Plumas National Forest Watch List) that might occur on National Forest System lands in the Project area directly affected by Project operations. When a species is added to one or more of the lists, the Forest Service in consultation with the Licensee shall determine if the species or un-surveyed suitable habitat for the species is likely to occur on National Forest System lands. For such newly added species, if the Forest Service determines that the species is likely to occur on such National Forest System lands, the Licensee shall develop and implement a study plan in consultation with the Forest Service to reasonably assess the effects of the project on the species. The Licensee shall prepare a report on the study including objectives, methods, results, recommended resource measures where appropriate, and a schedule of implementation, and shall provide a draft of the final report to the Forest Service for review and approval. The Licensee shall file the report, including evidence of Forest Service consultation, with the FERC and shall implement those resource management measures required by the Commission.

Condition No. 25: Protection Of Forest Service Special Status Species

Before taking actions to construct new project features on National Forest System lands that may affect Forest Service special status species (i.e. Forest Service sensitive and/or Plumas National Forest Watch List) or their critical habitat, the Licensee shall prepare and submit a biological evaluation (BE) for Forest Service approval. The BE shall evaluate the potential impact of the action on the species or its habitat. Where current information on population occurrence for some species is lacking (e.g. terrestrial mollusks and Pacific fisher), the Licensee shall perform necessary surveys prior to ground-disturbing activities, unless otherwise agreed to by the Forest Service. In coordination with the Commission, the Forest Service may require mitigation measures for the protection of the affected species.

The biological evaluation shall

- Include procedures to minimize adverse effects to special status species.
- Ensure Project-related activities shall meet restrictions included in management plans for special status species.
- Develop implementation and effectiveness monitoring of measures taken or employed to reduce effects to special status species.

Bald Eagle Management Plan

Within 90 days of license issuance, the Licensee shall initiate consultation with the Forest Service and other appropriate agencies to review and update the existing Bald Eagle Management Plan for the Project area. Within two years of License issuance, Licensee shall file with the Commission a revised Bald Eagle Management Plan approved by the Forest Service for portions of the plan involving National Forest System lands.

Bat Management Plan

Within 90 days of license issuance, the Licensee shall initiate consultation with the Forest Service and other appropriate agencies to write a bat management plan. Within two years of License issuance, Licensee shall file with the Commission a Bat Management Plan approved by the Forest Service for portions of the plan involving National Forest System lands'

Condition No. 26: Invasive Weed Management Plan

Within two years of license issuance, the Licensee shall file with the Commission, an Invasive Weed Management Plan developed in consultation with the Forest Service, the appropriate County Agricultural Commissioner and California Department of Food and Agriculture. Invasive weeds will be those weeds defined in the California Food and Agriculture code, and other species identified by the Forest Service. The Plan shall address both aquatic and terrestrial Invasive weeds within the project boundary and adjacent to project features directly affecting National Forest System lands including, roads, and distribution and transmission lines.

The Invasive Weed Management Plan shall include and address the following elements:

- Inventory and mapping of new populations of invasive weeds using a Forest Service compatible database and GIS software. The invasive weed GIS data layer shall be updated periodically and shared with resource agencies.
- Action and/or strategies to prevent and control spread of known populations or introductions of new populations, such as vehicle/equipment wash stations.
- Development of a schedule for control of all known A, B, Q and selected other rated invasive weed species, designated by resource agencies.
- On-going annual monitoring of known populations of invasive weeds for the life of the license in locations tied to project actions or effects, such as road maintenance, at project facilities, O&M activities, , new construction sites, etc. to evaluate the effectiveness of re-vegetation and invasive weed control measures.
- The Plan shall include an adaptive management element to implement methods for prevention of aquatic Invasive weeds, as necessary. These actions may include, but may not be limited to: 1) public education and signing of public boat access, 2) preparation of an Aquatic Plant Management Plan approved by the Forest Service, and in consultation with other agencies, and 3) boat cleaning stations at boat ramps for the removal of aquatic invasive weeds.

New infestations of A& B rated weeds shall be controlled within 12 months of detection, or as soon as is practical and feasible (A, B, C, & Q ratings refer to the California Department of Food & Agriculture Action Oriented Pest Rating System). At specific sites where other objectives need to be met, all classes of invasive weeds may be required to be treated.

Monitoring shall be done in conjunction with other project maintenance and resource surveys, so as not to require separate travel and personnel. Monitoring information, in database and GIS formats, shall be provided to the Forest Service as part of the annual consultation on affected National Forest resources (Condition No. 3). To assist with this monitoring requirement, training in invasive plant identification will be provided to project employees and contractors by the Forest Service.

The Licensee shall restore/revegetate areas where treatment has eliminated Invasive weeds in an effort to eliminate the reintroduction of Invasive weed species. Project-induced ground disturbing activities shall be monitored annually for the first 3 years after disturbance to detect and map new populations of Invasive weeds.

Condition No. 27: Visual Resource Protection

Within 60 days prior to any ground-disturbing activity on National Forest System lands, the Licensee shall file with the Commission a Visual Management Plan approved by the Forest Service. At a minimum, the Plan shall address:

- Clearing, spoil piles, and Project facilities such as diversion structures, penstocks, pipes, ditches, powerhouses, other buildings, transmission lines, corridors, and access roads.
- Facility configuration, alignment, building materials, colors, landscaping, and screening.
- Proposed mitigation and implementation schedule necessary to bring Project facilities into compliance with National Forest Land and Resource Management Plan direction.
- Locating road spoil piles either in approved areas on National Forest System lands or to a location off FS administered lands.
- Removal of all visible non-native materials, including construction debris from the surfaces of piles located on National Forest System lands.
- Stabilization and revegetation of all native material that is allowed to be left on National Forest System lands including compliance with visual quality objectives.

Condition No. 28: Road Management Plan

Within one year after license issuance, Licensee shall file with the FERC, a Road Management Plan approved by the Forest Service. The Plan shall include all Forest Service and unclassified roads required by the Licensee to access the Project area.

The Project Road Management Plan shall include:

1) Identification of all Forest Service roads and unclassified roads on National Forest System lands needed for Project access, including road numbers.

2) A map of all Forest Service roads and unclassified roads on National Forest System lands used for Project access, including digital spatial data accurate to within 40 feet, identifying each road by Forest Service road number.

3) A description of each Forest Service road segment and unclassified roads on National Forest System lands needed for Project access including:
    a) Termini
    b) Length
    c) Purpose and use
    d) Party responsible for maintenance
    e) Level of maintenance
    f) Structures accessed
    g) Location and status of gates and barricades, if any
    h) Ownership of road segment and underlying property

i) Instrument of authorization for road use
j) Assessment of road conditions

4) Provisions for the Licensee to consult with the Forest Service in advance of performing any road construction, realignment, or closure involving Forest Service roads or lands.
5) The Licensee shall prepare a condition survey and a proposed maintenance plan subject to Forest Service approval annually beginning the first full-year after the Road Management Plan has been approved.

The Licensee shall obtain appropriate authorization (e.g. special use permit, road use permit, or maintenance agreement) in accordance with the Road Management Plan for all Project access roads that are under Forest Service jurisdiction outside the Project boundary, including unclassified roads and Forest Service System roads needed for Project access. The term of the authorization shall be the same as the term of the license. The Licensee shall enter into the appropriate authorization mechanism with the Forest Service that will supersede the existing Special Use Permit. The Road Management Plan shall identify the Licensee's responsibility for road maintenance and repair costs commensurate with the Licensee's use and Project-induced use. The Road Management Plan shall specify road maintenance and management standards that provide for traffic safety; minimize erosion and damage to natural resources and that are acceptable to the Forest Service.

Licensee shall be responsible for any new construction, realignment, closure, or other road management actions proposed by Licensee in the future, subject to Forest Service standards in effect at the time, including related studies, analyses or reviews required by Forest Service.

As an alternative to preparing a Road Management Plan, Licensee may request that the Forest Service incorporate Project roads located on National Forest System lands into the existing Forest Service and Licensee Road Use Agreement. If the request is accepted by the Forest Service, Licensee shall file the Road Use Agreement with the FERC in lieu of the Road Management Plan.

Access by the United States

The United States shall have unrestricted use of any road over which the Licensee has control within the project area for all purposes deemed necessary and desirable in connection with the protection, administration, management, and utilization of Federal lands or resources. When needed for the protection, administration, and management of Federal lands or resources the United States shall have the right to extend rights and privileges for use of the right-of-way and road thereon to States and local subdivisions thereof, as well as to other users. The United States shall control such use so as not to unreasonably interfere with the safety or security uses, or cause the Licensee to bear a share of costs disproportionate to the Licensee's use in comparison to the use of the road by others.

Road Use

The Licensee shall confine all vehicles being used for project purposes, including but not limited to, administrative and transportation vehicles and construction and inspection equipment, to roads or specifically designed access routes, as identified in the Road Management. The Forest Service reserves the right to close any and all such routes where damages is occurring to the soil or vegetation, or, if requested by Licensee, to require reconstruction/construction by the Licensee to the extent needed to accommodate the Licensee's use. The Forest Service agrees to provide notice to the Licensee and the Commission prior to road closures, except in an emergency, in which case notice will be provided as soon as practicable.

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ENCLOSURE 2

FOREST SERVICE RESPONSE TO
SOUTH FEATHER WATER AND POWER AGENCY'S
ALTERNATIVE CONDITION SUBMITTAL

United States Department of Agriculture **Forest Service** **Pacific Southwest Region**

Regional Office, R5
1323 Club Drive
Vallejo, CA 94592
(707) 562-8737 Voice
(707) 562-9240 Text (TDD)

File Code: 2770-2
Date: March 3, 2009

Mr. John A. Whittaker, IV
Attorney for South Feather Water and Power Agency
Winston & Strawn, LLP
1700 K Street, NW
Washington,, DC 20006-3817

Dear Mr. Whittaker:

This letter responds to your May 14, 2008, request for the U.S. Forest Service to adopt proposed alternative Federal Power Act (FPA) section 4(e) conditions (FPA Section 33; 7CFR§1.670 *et seq.*) for the South Feather Power Project (SFPP), FERC Project No. 2088. South Feather Water and Power Agency (Licensee) filed alternative conditions on May 14, 2008, pursuant to the provisions of § 33 of the Federal Power Act (FPA), and 7 CFR § 1.604, and § 1.671 (the rule). The Forest Service has completed its analysis pursuant to 7 CFR § 1.673 as documented in this response.

The FPA and the rule provide that the Forest Service evaluate and accept proposed alternative conditions based on a two part assessment that considers: 1) cost and operational efficiency, and 2) adequate protection and utilization of the National Forest System lands (NFS lands) affected by the project. When making that determination the FPA and the rule requires that the Forest Service demonstrate that we gave equal consideration to the effects of the condition adopted and any alternative not adopted on: energy supply, distribution, cost, and use; flood control; navigation; water supply; air quality; and preservation of other aspects of environmental quality. The primary components of the SFPP on NFS lands are the storage reservoirs, diversion tunnels, canals and penstocks, and power houses.

For the purposes of this review, we assess whether the proposed alternative condition is adequate to protect and utilize the reservation first, using the sources of information specified by the rule (7 CFR § 1.673(a)). If a proposed alternative condition fails this assessment, the review is complete, and the alternative condition is not accepted. Alternative conditions that provide adequate protection are then evaluated on the basis of cost and operational efficiency. If a proposed alternative condition meets both conditions, it is accepted and will be filed by the Forest Service with the Federal Energy Regulatory Commission as a final condition. Since several proposed alternative conditions contained multiple components, the two part assessment was applied to each component to provide the maximum consideration of the alternative condition. The final conditions are included as Attachment 1.

Attachment 2 and the Appendix contain the Forest Service's assessment of the alternative conditions proposed for Conditions 18 and 19. The Applicants provided rationale and supporting information for these alternative conditions in sufficient detail to allow a review under the rule. In summary, staff at the Forest, Regional and Washington Office reviewed your request and other information pertinent to this relicensing in the FERC public record. While your proposed conditions were not adopted in full, Forest Service staff determined that there was a need to change the Forest Service preliminary filing based on the information provided by the licensee and information in the public record.

You requested that the Forest Service in Condition 18:

1. Clarify language associated with determining how project streamflows are determined to be in compliance with minimum streamflow requirements.
2. Reduce minimum streamflows in the Little Grass Valley, South Fork Diversion, Forbestown Diversion and Lost Creek Diversion reaches.
3. Clarify the outlet capacity definition on the Slate Creek reach.

We did not adopt the language proposed for minimum streamflow compliance determination but have encouraged the Forest to work with you to reach agreement on the language since it appears that both the Forest Service and licensee agree on the compliance measurement in principle. The Revised Condition 18 now includes flows that have been reduced to levels that are much closer to flows proposed by the licensee as compared to the preliminary conditions originally filed. The flows requested by the licensee for the Lost Creek reach in Above Normal, Below Normal and Wet water year types were adopted. We adopted the language proposed by the licensee for the Slate Creek Reach outlet capacity definition,

For Condition 19 Part 2 Foothill Yellow Legged Frog Monitoring plan the licensee proposed to replace the Forest Service Amphibian Monitoring Plan with a plan that proposes:

1. Full reach surveys totaling approximately six miles;
2. Representative surveys at three sites;
3. Monitoring methods used in the re-licensing surveys;
4. An alternative monitoring reporting methodology; and
5. That does not include water temperature, geomorphology, or habitat monitoring.

We totally rewrote Condition 19 Part 2 with the assistance of scientists at the Pacific Southwest Research Station who have worked with the California Energy Commission on the issues associated with hydropower projects and impacts to Foothill Yellow Legged Frog populations. The condition is now consistent with the requirements of other licenses. We also have encouraged the Forest staff and PSW scientists to work with the licensee to develop a means to implement this monitoring at least cost to the licensee.

Having reviewed and acted upon your request, we declare that all Energy Policy Act of 2005 Section 241 procedures have been successfully completed for the South Feather Power Project. If you have any questions about this notice or other agency hydropower procedures, please do not hesitate to contact Julie Tupper, the Regional FERC Coordinator at (916) 498-5324 or Cheryl Mulder, the Plumas National Forest FERC Coordinator at (530) 283-7771.

Sincerely,

/s/ Beth G. Pendleton (for)
RANDY MOORE
Regional Forester

Enclosures

cc: Julie Tupper
Michael Glaze
Manager SFWPA
FERC
FERC Service List P-2088

Attachment I – Revised Section 4(e) Conditions

Condition No. 18 - Streamflow

Part 1. Minimum Streamflows.

For the preservation and improvement of aquatic resources in the Project area, Licensee shall maintain specified minimum streamflows in project reaches in accordance with the Tables A-1 through A-5 below. Minimum streamflows shall commence within 60 days of License issuance, unless facility modifications are required.

Minimum streamflows shall be measured in two ways: as the 24-hour average of the flow (mean daily flow) and as an instantaneous flow. The instantaneous flow is the flow value used to construct the average daily flow value and shall be measured in time increments of at least 15-minutes. The 24-hour average flow is the average of the incremental readings from midnight of one day to midnight of the next day. Licensee shall record instantaneous 15-minute streamflow as required by US Geological Survey (USGS) standards at all gages. The minimum instantaneous 15-minute streamflow shall be at least 80 percent of the prescribed mean daily flow for those minimum streamflows less than or equal to 10 cfs and at least 90% of the prescribed mean daily flow for those minimum streamflows required to be greater than 10 cfs as set forth in Tables A-1 through A-5.

Should the mean daily flow as measured be less than the required mean daily flow set forth in Tables A-1 through A-5 but more than the instantaneous flow, Licensee shall begin releasing the equivalent under-released volume of water within 7 days of discovery of the under release. Credit for such additional releases will not exceed 20% of the instantaneous flow amount, when used to attain the equivalent of the under-released volume.

Table A-1: Minimum Streamflows Little Grass Valley Reach
Measured at USGS gage No.11395030 (SF 3)

Release from Little Grass Valley Dam (cfs)				
Month	Water Year Type			
	Wet	Above Normal	Below Normal	Dry
October	19	15	10	10
November	19	15	10	10
December	19	15	10	10
January	19	15	10	10
February	19	15	10	10
March	19	19	19	19
April 1-7	46	46	28	26
April 8-14	73	46	36	26
April 15-21	99	46	36	26
April 22-30	126	46	36	26
May 1-15	126	99	36	26
May 16-31	126	46	28	26
June	53	46	28	19
July	19	19	15	10
August	19	19	10	10
September	19	19	10	10

Table A-2: Minimum Streamflows South Fork Diversion Reach
Measured at USGS gage No. 11395200 (SF 5)

Release from South Fork Diversion Dam (cfs)				
Month	Water Year Type			
	Wet	Above Normal	Below Normal	Dry
October	19	15	10	10
November	19	15	10	10
December	19	15	10	10
January	19	15	10	10
February	19	15	10	10
March	19	19	19	19
April 1-7	46	46	28	26
April 8-14	73	46	36	26
April 15-21	99	46	36	26
April 22-30	126	46	36	26
May 1-15	126	99	36	26
May 16-31	126	46	28	26
June	53	46	28	19
July	19	19	15	10
August	19	19	10	10
September	19	19	10	10

Table A-3: Minimum Streamflows Forbestown Diversion Reach
Measured at USGS gage No. 11396200 (SF17)

Release from Forbestown Diversion Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	**19**	**15**	**10**	**10**
November	**19**	**15**	**10**	**10**
December	**19**	**15**	**10**	**10**
January	**19**	**15**	**10**	**10**
February	**19**	**15**	**10**	**10**
March	**19**	**19**	**19**	**19**
April 1-7	**46**	**46**	**28**	**26**
April 8-14	**73**	**46**	**36**	**26**
April 15-21	**99**	**46**	**36**	**26**
April 22-30	**126**	**46**	**36**	**26**
May 1-15	**126**	**99**	**36**	**26**
May 16-31	**126**	**46**	**28**	**26**
June	**53**	**46**	**28**	**19**
July	**19**	**19**	**15**	**10**
August	**19**	**19**	**10**	**10**
September	**19**	**19**	**10**	**10**

Table A-4: Minimum Streamflows Lost Creek Diversion Reach
Measured at USGS gage No. 11396000 (SF13)

Release from Lost Creek Reservoir Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	**8**	**8**	**8**	**8**
November	**8**	**8**	**8**	**8**
December	**8**	**8**	**8**	**8**
January	**8**	**8**	**8**	**8**
February	**20**	**20**	**16**	**12**
March	**60**	**45**	**40**	**30**
April	**30**	**30**	**25**	**20**
May	**30**	**20**	**20**	**15**
June	**20**	**16**	**12**	**12**
July	**10**	**8**	**8**	**8**
August	**8**	**8**	**8**	**8**
September	**8**	**8**	**8**	**8**

Table A-5: Minimum Streamflows Slate Creek Reach
Measured at USGS gage No. 11413300 (SF 10)

Release from Slate Creek Diversion Dam (cfs) Either the natural inflow or the specified release, whichever is less				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	10	10	10	10
November	10	10	10	10
December	10	10	10	10
January	10	10	10	10
February	10	10	10	10
March	49**	49**	49**	49**
April	32	32	32	32
May	32	32	32	32
June	10	10	10	10
July	10	10	10	10
August	10	10	10	10
September	10	10	10	10

**49 cfs or outlet capacity, which ever is less, but no less than 40 cfs.

Where facility modification is required to implement the efficient release of Minimum Streamflows, the Licensee shall submit applications for permits within one year after license issuance and complete such modifications as soon as reasonably practicable but no later than two years after receipt of all required permits and approvals. Prior to completion of 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.

The Licensee shall schedule the timing of maintenance or other planned outages to avoid negative ecological effects from the resultant spills. The Licensee shall provide written notification to the Forest Service 90 days prior to any planned or scheduled maintenance outages that would affect streamflows in the South Feather Power Project bypass reaches. Notification shall include a description of Project and coordinated measures the Licensee plans to take to minimize the magnitude and duration of spills into the Project reach. The Licensee shall not proceed with the planned maintenance outage without the formal written approval of the Forest Service. The Forest Service will respond in a timely manner.

The Minimum Streamflow requirements are subject to temporary modification if required by equipment malfunction, as directed by law enforcement authorities, or in emergencies. An emergency is defined as an event that is reasonably out of the control of the Licensee and requires Licensee to take immediate action, either unilaterally or under instruction by law enforcement or other regulatory agency staff, to prevent imminent loss of human life or substantial property damage. An emergency may include, but is not limited to, natural events

such as landslides, storms or wildfires, malfunction or failure of Project works, and recreation accidents.

If the Licensee temporarily modifies the requirements of these conditions, then the Licensee shall make all reasonable efforts to promptly resume performance of such requirements and shall notify the Forest Service and other interested or affected governmental agencies within 48 hours of the modification.

Condition 19: Aquatic Biological Monitoring –

Part 2. Foothill Yellow-legged Frog Monitoring Plan

Within one year of license issuance, and after consultation with the Forest Service, and other interested governmental agencies, the Licensee shall file with the FERC an amphibian monitoring plan approved by the Forest Service. The Plan shall outline sampling to be conducted in the following reaches: Little Grass Valley Dam, South Fork Diversion Dam, SF Feather River/Lost Creek, Forbestown Diversion Dam, Slate Creek Diversion Dam, and Lost Creek Dam.

The Amphibian Monitoring Plan for the above reaches shall include targeted monitoring of Forest Service sensitive amphibians beginning no later than the first spring following license issuance and continuing at some level through out the project license period. Monitoring shall include foothill yellow-legged frogs (FYLF) population status, distribution, viability, and reproductive success. Since the new minimum streamflow conditions will alter the base flow levels and timing of flows relative to recent project operation, the following shall be assessed in detail for typical oviposition (egg-laying) and rearing (tadpole) habitats for both occupied and non-occupied habitat locations: temperature regimes; riparian vegetation establishment, encroachment and scouring; habitat conditions (water depths, velocities, bank slopes, etc.); and river bar formation/loss. In addition, a ramping rate assessment shall be conducted. Following are brief descriptions of the required components of the Monitoring Plan:

(1) Population Monitoring – The Licensee shall develop and implement a plan to monitor the numbers of FYLF egg masses, tadpoles and adults on an annual basis during the beginning and near the end of the license. Monitoring intensity in the intervening years will be determined based on population status. The following steps for monitoring shall be used unless otherwise determined by the FS:

a. First year, full reach surveys of all project reaches and associated tributary streams. Full reach surveys shall be conducted in the following project reaches: Little Grass Valley Dam, South Fork Diversion Dam, SF Feather River/Lost Creek, Forbestown Diversion Dam, Slate Creek Diversion Dam, and Lost Creek Dam. The total linear distance of these reaches is approximately 38 miles. However, accessibility may preclude complete coverage. Up to 0.5 miles of all tributary streams shall be surveyed during full reach surveys. The total distance of surveyed reaches shall be determined by accessibility.

b. Second year repeat full reach surveys. If weather, timing of surveys, or any project operations compromise the first year full reach survey results, full reach surveys shall be conducted again in the second year.

c. Full reach surveys throughout the license period. Full reach surveys as described in step a. (above) shall be conducted once every 10 years through the license period.

d. Evaluation of full reach survey data. Forest Service and licensee will collaboratively evaluate the outcome of full reach surveys and compare them to known FYLF population densities in unregulated Sierran and North Coast California rivers. If FYLF population densities are substantially lower in SFFP reaches, licensee shall initiate targeted data collection to allow population modeling for SFFP reaches (see step e. below). If densities are comparable and robust, licensee shall continue with annual surveys at representative sites (see step f. below) for 5 subsequent years to determine population trends.

e. Population data collection (if necessary). If FYLF population densities are substantially lower than comparable populations in unregulated rivers, the licensee shall initiate detailed population data collection using methods that will allow the data to be applied to an existing population model. For at least four consecutive years, data shall be collected that will allow estimates of tadpole and adult survival rates. Methods may include capture-recapture of adults and double observer counts of tadpoles (or another method which yields an estimate of count error). The results of this data collection will be used in an existing, peer-reviewed population model for FYLF (funded by the California Energy Commission and developed in collaboration between the Forest Service Pacific Southwest Research Station, U.C. Berkeley, and Simon Fraser University scientists; Kupferberg et al. 2009). This model can be used to relate annual counts of egg masses (as a population index) to overall population status. It can also provide a population viability analysis for SF Feather populations of FYLF. Such an analysis will quantify the trajectory (i.e. stable, increasing, decreasing, time to extinction). The development of this demographic data shall be done in consultation with, and approved by, the Forest Service.

f. Representative sites selection, annual surveys, and changes to representative site set. If full reach surveys indicate that FYLF populations are comparable to known populations from unregulated rivers, a set of representative sites shall be selected and surveyed. Representative sites will be selected based on results of full reach survey results (in steps a. and b.above). This set of sites will include one site in each of the six reaches (listed in step a., above) and may include additional sites in the reaches that are documented to have FYLF populations. Representative sites shall be long enough (in linear distance) to include known breeding sites as well as a buffer of potential breeding habitat both up and downstream. Based on site sizes provided in the license application, the linear distance to be surveyed at each site will range from 500-800m.

Visual encounter surveys shall be conducted at these representative sites with the objective of documenting the breeding effort and recruitment each year. Surveys should include counts of egg masses, tadpole groups, and young of the year frogs. If subsequent full reach surveys (in years 10, 20, or 30) document changes in the distribution of FYLF within the project area, the set of representative sites being monitored shall be re-evaluated. Barring contingencies described in step d. above and step g. below, representative sites shall be surveyed annually for the first five years following the first year full reach surveys, then once every four years thereafter. Annual surveys will again be initiated for the three years immediately prior to the start of the next relicensing period. The initial five year annual survey period must include at least three different water year categories: dry, below normal, above normal/wet. Survey years shall be added as necessary until all types are represented.

g. Revisions to monitoring plan and flow conditions. If during any FYLF monitoring, the population is documented to decline, then Forest Service and Licensee will collaboratively re-evaluate flow and temperature conditions and initiate data collection for a population viability analysis (as in step e. above).

(2) Temperature Monitoring –The Licensee shall develop a temperature monitoring study to monitor water temperatures in the river, especially in the stream margins where eggs and tadpoles occur, and to assess water temperature effects on eggs and tadpoles. The location of this monitoring will be based on information derived from the first year full-reach surveys (described in the population monitoring section above). Temperature monitoring shall bracket known FYLF breeding sites and will occur (at a minimum) at the most upstream and the most downstream sites in each occupied project reach. Temperature data shall be collected at breeding sites in stream margin areas with a few additional data collection points in margin environments upstream and downstream of each breeding site. Data shall be collected annually during the breeding and rearing season until three water year categories (dry, below normal, above normal/wet) have been represented. Licensee shall also determine the length of the development period for eggs (from laying to hatching) and tadpoles (from egg hatching to metamorphosis) and measure the size of young of the year frogs at metamorphosis, so that an assessment of the influence of water temperatures can be made. Temperature data shall be provided to the Forest Service so that the effects of the new license can be evaluated. Negative effects on FYLF may be cause for reassessment of stream flow prescriptions, if determined by the FS.

(3) Habitat Monitoring –The geomorphologic and riparian vegetation response to the new flow regime in FYLF habitats shall be monitored through the course of the license. The key features of depositional bars and other breeding sites to be monitored are: size (length and width during breeding and rearing season), bank slope, substrate composition, and vegetation cover. Measurements should be taken at all breeding sites during the first full reach survey, and during those surveys in subsequent years (year 10, 20, etc.). This monitoring shall be coordinated to the extent possible with the Riparian Vegetation Monitoring and Treatment condition. If encroachment of riparian vegetation is documented in the Riparian Vegetation Monitoring and Treatment low-elevation video (at year 4), measurements of FYLF breeding site characteristics may be required prior to year 10. Substantial changes in bar geomorphology and/or riparian vegetation encroachment that may in turn affect habitat suitability for FYLF may be cause for reassessment of stream flow prescriptions, if determined by the FS.

(4) Ramping Rate Determination – The Licensee shall empirically determine the relationship between discharge (flows) to velocity and discharge to stage at egg mass and tadpole sites. Methodology for this determination may include placement of transects and field measurements of water velocity and depth at different flows, or other comparable methods. This information will be used to assess the suitability of the ramping rates prescribed in Condition 18, Part 5.

The Licensee shall provide results of amphibian monitoring in a report to the FERC, Forest Service, and other interested governmental agencies at the annual consultation meeting described in Condition No. 3. Amphibian monitoring shall enumerate changes in habitat occupied, including extent of occupation and trends in FYLF abundance. In addition to describing the results, the report shall compare the results with those of previous surveys.

Enclosure II

Forest Service Response to Licensees' Submittal of Alternative Conditions for Certain Final § 4(e) conditions submitted by the Forest Service for the South Feather Power Project (SFPP), FERC No. 2088

South Feather Water and Power Agency (Licensee) filed alternative conditions on May 14, 2008, pursuant to the provisions of § 33 of the Federal Power Act (FPA), and 7 CFR § 1.604, and § 1.671 (the rule). The Forest Service has completed its analysis pursuant to 7 CFR § 1.673 as documented in this response.

The FPA and the rule provide that the Forest Service evaluate and accept proposed alternative conditions based on a two part assessment that considers: 1) cost and operational efficiency, and 2) adequate protection and utilization of the National Forest System lands (NFS lands) affected by the project. When making that determination the FPA and the rule requires that the Forest Service demonstrate that we gave equal consideration to the effects of the condition adopted and any alternative not adopted on: energy supply, distribution, cost, and use; flood control; navigation; water supply; air quality; and preservation of other aspects of environmental quality. The primary components of the SFPP on NFS lands are the storage reservoirs, diversion tunnels, canals and penstocks, and power houses.

For the purposes of this review, we assessed whether the proposed alternative condition is adequate to protect and utilize the reservation first, using the sources of information specified by the rule (7 CFR § 1.673(a)). If a proposed alternative condition fails this assessment, the review is complete, and the alternative condition is not accepted. Alternative conditions that provide adequate protection are then evaluated on the basis of cost and operational efficiency. If a proposed alternative condition meets both conditions, it is accepted and will be filed by the Forest Service with the Federal Energy Regulatory Commission as a final condition. Since several proposed alternative conditions contained multiple components, the two part assessment was applied to each component to provide the maximum consideration of the alternative condition.

Licensee Proposed Alternative Conditions:

Condition No.18: Streamflow –

a. Clarify minimum streamflow compliance language. Licensee proposed language is underlined, original FS preliminary 4(e) language that is proposed for deletion is in strike-out and italicized.:

For the preservation and improvement of aquatic resources in the Project area, Licensee shall maintain specified minimum streamflows in project reaches in accordance with the Tables A-1 through A-5 below. Minimum streamflows shall commence within 60 days of License issuance, unless facility modifications are required.

Minimum streamflows shall be measured in two ways: as the 24-hour average of the flow (mean daily flow) and as an instantaneous flow. The instantaneous flow is the flow value used to construct the average daily flow value and shall be measured in time increments of at least 15-minutes. The 24-hour average flow is the average of the incremental readings from midnight of one day to midnight of the next day. Licensee shall record instantaneous 15-minute streamflow as required by US Geological Survey (USGS) standards at all gages. The minimum instantaneous 15-minute streamflow shall be at least 80 percent of the prescribed mean daily flow for those minimum streamflows less than or equal to 10 cfs and at least 90% of the prescribed mean daily flow for those minimum streamflows required to be greater than 10 cfs as set forth in Tables A-1 through A-5.

Should the mean daily flow as measured be less than the required mean daily flow set forth in Tables A-1 through A-5 ~~*but more than the instantaneous flow*~~, Licensee shall begin releasing the equivalent under-released volume of water within 7 days of discovery of the under-release. ~~*Credit for such additional releases will not exceed 20% of the instantaneous flow amount, when used to attain the equivalent of the under-released volume.*~~

Licensee shall be considered to be in compliance with the minimum streamflow release requirements: 1) when Licensee meets the mean daily and instantaneous streamflow requirements: or 2) when Licensee releases an equivalent under-released volume and the under-released volume does not exceed 20% of the mean daily flow volume.

Forest Service Analysis –

The licensee indicates that the Forest Service language is unclear on how compliance with minimum streamflows is to be determined. Licensee claims the proposed changes would clarify language associated with determining how project streamflows are determined to be in compliance with minimum streamflow requirements. The terms proposed by the Forest Service for instream flow compliance are the same as those included in most other licenses in California. Instream Flow calculations are based on two parameters, instantaneous (generally 15-minute readings) and the average daily (24-hour) flow computed from the instantaneous record. The intent of the Forest Service compliance language is to reduce the need for the licensee to report flow deviations from either instantaneous measurements or small deviations from average daily flow. We believe the language provided by the licensee will require the licensee to report all deviations from the instantaneous record as well as deviations from average daily flow. The licensee's proposed replacement language also seems ambiguous since it states that the licensee will be in compliance if they meet both the instantaneous and average daily flow OR make up a flow difference. The key concern for the Forest Service is that (1) the instantaneous flows as defined in our original condition are the absolute minimum acceptable flow, AND (2) that average daily flows are met daily or made up within 7 days.

b.) Reduce minimum streamflows in the Little Grass Valley, South Fork Diversion, Forbestown Diversion Reach and Lost Creek Diversion reaches. and
c.) Clarify the outlet capacity definition on the Slate Creek reach.

As shown in the tables below, the Forest Service agrees to the flows in the Lost Creek Reach proposed by the licensee for Above Normal, Below Normal and Dry Water Year Types. The Forest Service has also significantly reduced instream flows in the other three reaches, particularly in Below Normal and Dry Years. Flows in Wet and Above Normal Years were not reduced by the same magnitude since as discussed below. The Forest Service believes these flows are needed to adequately protect aquatic species in these reaches.

Each cell in the tables contains from 1 to 3 numbers. In cells with three numbers, the first number (shown as italicized, strike-out) is the original FS preliminary 4(e) flow value, the second number (shown as underlined) is the licensee's proposed alternative flow value, the third number (shown as bold) is the FS Revised flow value, In cells with two numbers, the first number is the original FS preliminary 4(e) flow value and the second number (shown in bold) is the Revised FS flow value (the licensee did not propose changing the FS original preliminary flow value but the FS changed the flow based on this analysis). In cells with one number, no change was proposed to FS original preliminary flow value by the licensee and the FS did not change the value.

Table A-1: Minimum Streamflows Little Grass Valley Reach
Measured at USGS gage No.11395030 (SF 3)

Release from Little Grass Valley Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	~~*19*~~ 15 **19**	10 **15**	10	10
November	~~*19*~~ 15 **19**	10 **15**	10	10
December	~~*19*~~ 15 **19**	~~*19*~~ 15 **15**	10	10
January	~~*19*~~ 15 **19**	~~*19*~~ 15 **15**	10	10
February	~~*19*~~ 15 **19**	~~*19*~~ 15 **15**	10	10
March	~~*19*~~ 15 **19**	~~*19*~~ 15 **19**	~~*19*~~ 10 **19**	19
April 1-7	46	~~*53*~~ 24 **46**	~~*53*~~ 36 **28**	~~*53*~~ 28 **26**
April 8-14	73	~~*53*~~ 24 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
April 15-21	99	~~*53*~~ 24 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
April 22-30	126	~~*53*~~ 24 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
May 1-15	126	~~*126*~~ 48 **99**	~~*70*~~ 28 **36**	~~*53*~~ 24 **26**
May 16-31	126	~~*53*~~ 36 **46**	~~*70*~~ 28 **28**	~~*53*~~ 24 **26**
June	~~*53*~~ 36 **53**	~~*53*~~ 24 **46**	~~*36*~~ 20 **28**	~~*15*~~ 15 **19**
July	~~*19*~~ 15 **19**	15 **19**	~~*15*~~ 10 **15**	~~*15*~~ 10 **10**
August	~~*19*~~ 15 **19**	10 **19**	10	10
September	~~*19*~~ 15 **19**	10 **19**	10	10

Table A-2: Minimum Streamflows South Fork Diversion Reach
Measured at USGS gage No. 11395200 (SF 5)

Release from South Fork Diversion Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	19	10	10	10
November	19	10	10	10
December	19	19	10	10
January	19	19	10	10
February	19	19	10	10
March	19	19	19	19
April 1-7	46	~~*53*~~ 36 **46**	~~*53*~~ 36 **28**	~~*53*~~ 28 **26**
April 8-14	73	~~*53*~~ 36 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
April 15-21	99	~~*53*~~ 36 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
April 22-30	126	~~*53*~~ 36 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
May 1-15	126	~~*126*~~ 73 **99**	~~*70*~~ 28 **36**	~~*53*~~ 24 **26**
May 16-31	126	53 **46**	~~*70*~~ 28 **28**	~~*53*~~ 24 **26**
June	53	~~*53*~~ 35 **46**	~~*36*~~ 20 **28**	~~*15*~~ 15 **19**
July	19	15 **19**	15	~~*15*~~ 10 **10**
August	19	10 **19**	10	10
September	19	10 **19**	10	10

Table A-3: Minimum Streamflows Forbestown Diversion Reach
Measured at USGS gage No. 11396200 (SF17)

Release from Forbestown Diversion Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	19	10	10	10
November	19	10	10	10
December	19	19	10	10
January	19	19	10	10
February	19	19	10	10
March	19	19	19	19
April 1-7	46	~~*53*~~ 36 **46**	~~*53*~~ 36 **28**	~~*53*~~ 28 **26**
April 8-14	73	~~*53*~~ 36 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
April 15-21	99	~~*53*~~ 36 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
April 22-30	126	~~*53*~~ 36 **46**	~~*53*~~ 36 **36**	~~*53*~~ 28 **26**
May 1-15	126	~~*126*~~ 73 **99**	~~*70*~~ 28 **36**	~~*53*~~ 24 **26**
May 16-31	126	53 **46**	~~*70*~~ 28 **28**	~~*53*~~ 24 **26**
June	53	~~*53*~~ 35 **46**	~~*36*~~ 20 **28**	~~*15*~~ 15 **19**
July	19	15 **19**	15	~~*15*~~ 10 **10**
August	19	10 **19**	10	10
September	19	10 **19**	!0	10

Table A-4: Minimum Streamflows Lost Creek Diversion Reach
Measured at USGS gage No. 11396000 (SF13)

Release from Lost Creek Reservoir Dam (cfs)				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	8	8	8	8
November	8	8	8	8
December	8	8	8	8
January	8	8	8	8
February	~~35~~ 20 **20**	~~28~~ 20 **20**	~~20~~ 16 **16**	12
March	~~75~~ 45 **60**	~~60~~ 45 **45**	~~45~~ 40 **40**	30
April	~~35~~ 30 **30**	~~33~~ 30 **30**	~~30~~ 25 **25**	20
May	~~30~~ 20 **30**	~~25~~ 20 **20**	20	15
June	~~20~~ 16 **20**	~~18~~ 16 **16**	~~16~~ 12 **10**	12
July	~~10~~ 8 **10**	~~9~~ 8 **8**	8	8
August	8	8	8	8
September	8	8	8	8

Table A-5: Minimum Streamflows Slate Creek Reach
Measured at USGS gage No. 11413300 (SF 10)

Release from Slate Creek Diversion Dam (cfs) **Either the natural inflow or the specified release, whichever is less**				
Month	**Water Year Type**			
	Wet	**Above Normal**	**Below Normal**	**Dry**
October	10	10	10	10
November	10	10	10	10
December	10	10	10	10
January	10	10	10	10
February	10	10	10	10
March	49**	49**	49**	49**
April	32	32	32	32
May	32	32	32	32
June	10	10	10	10
July	10	10	10	10
August	10	10	10	10
September	10	10	10	10

49 cfs or current outlet capacity, which ever is less, **but no less then 40 cfs.

Forest Service Analysis –

The licensee is proposing reduced minimum streamflows in four of five project reaches. The licensee states in their alternative conditions filing that (1) their recommended alternative flow conditions will adequately protect rainbow trout species in project reaches. They also indicate that their proposed flow schedules will: (2) have less potential for adverse impacts on foothill yellow-legged frogs, hardhead, and benthic macroinvertebrate species; (3) provide a more suitable Little Grass Valley Reservoir pool for bald eagles; (4) provide a Little Grass Valley

Reservoir surface elevation closer to historical levels; (5) provide greater opportunity for whitewater boating in the South Fork Feather River; (6) cost significantly less to implement than Forest Service flow schedules; and (7) would result in more reliable, clean energy deferring the need for development of gas-fired energy sources.

The Forest Service evaluates project-effects through a multi-species ecosystem approach. This includes analyzing spatial and temporal effects throughout the project area. Decisions regarding the adequate protection of species are based on the entire ecosystem and not on single species concerns. Construction and operation of the South Feather Power Project has highly altered the associated aquatic ecosystems on National Forest Service Lands. Timing of natural flows, natural temperature regimes, species abundance and distribution have all been seriously altered by the Project.

It is important to note that many decisions made by the Forest Service concerning project resource impacts and associated project costs are not directly displayed in our 4(e) conditions. For example, we have purposely not included fish screen and temperature control devices in our FPA Section 4(e) conditions. If future revisions or updates of Project facilities are proposed, we will consider the feasibility of integrating such facilities into the project at that time. The California Department of Fish and Game included these improvements in their Section 10(j) recommendations because the results of relicensing studies showed that these types of improvements would benefit the aquatic system. These improvements would require major, costly modification of existing facilities. Thus the Forest Service chose to focus on flow and monitoring based solutions at this time, deferring the consideration for structural modification to when the licensee proposes structural changes. Because of these "behind-the scenes" decisions and the good faith negotiations between the Forest Service and the licensee to balance environmental mitigation and enhancement costs versus project net benefits, the Forest Service believes the measures prescribed in the Section 4(e) conditions (as revised in this document) best maintain and enhance the resources affected by the project

> ***Rainbow trout*** – In the Forest Service judgment, many of the Licensee proposed flows do not provide adequate protection for rainbow trout populations in the project area. The California Department of Fish and Game (CDF&G) in a January 6, 2009 letter to the FERC stated that they do not consider the fish populations in the project affected reaches to be in good condition pursuant to California Fish and Game Code Section 5927. Their letter provides information on the flow regimes that CDF&G believe are necessary for the protection of Rainbow Trout. The flows prescribed by CDF&G are in most cases higher than those prescribed by the Forest Service. The California State Water Resources Control Board (SWRCB) also provided comments to the FERC on October 25, 2006 expressing concern over the licensee's use of the Habitat Time Series methodology to determine the flow regime. The primary issue is that the HTS method used by the licensee averages across time and space. While the Forest Service agrees that these are important components to consider, the critical component for an individual trout is the minimum conditions faced in a specific location. Hence the "static" WUA calculations used by the Fishery agencies and the Forest Service represent the most critical flows required by the rainbow trout populations. In general, the Forest Service focused on providing at least 80% "Spawning" WUA during Rainbow Trout spawning periods

(generally April through May or June), and also focused on Juvenile and Adult Habitat in the summer and fall, while also considering temperature and wetted channel conditions.

In the "The Basis for SFWPA's Alternative Condition" (page 14), SFWPA "…proposes a streamflow regime with adequate protection for adult rainbow trout, a target life stage/fish species for the USFS when it developed its minimum streamflow…".

They provide as evidence an Integrated Habitat Time Series (Exhibit 2) that compares the SFWPA alternative condition versus the Forest Service's (FS) flow conditions as proposed in the FS April 14, 2008 Preliminary 4(e) condition. They present what they postulate as three important points from Exhibit 2 that demonstrate that the SFWPA proposed Alternative Condition No. 18 – Part 1. Minimum Streamflows provides adequate protection for rainbow trout:

1. Adult trout is maintained at over 80% of unimpaired values for all South Fork Feather River reaches;
2. Habitat for all other life stages is maintained at higher level or improved over unimpaired conditions, and in many cases is vastly improved.
3. The differences in habitat results between the FS' FPA 4(e) Terms and Conditions and SFWPA's Alternative Condition are minimal; both enhance habitat over existing conditions and the minor differences between the habitat values do not justify adopting the FS' Condition with SFWPA declared adverse effects on other watershed resources such as recreation, bald eagle habitat, and aquatic habitat for sensitive species.

The Forest Service shares the same concerns regarding the Habitat Time Series as used by the SFWPA as the California Department of Fish and Game and the California State Water resources Control Board. The State Water Board's January 6, 2009 comments are reiterated in the paragraphs below:

> *The habitat time series (HTS) masks the true weighted usable area (WUA) results during low flow periods by averaging flow accretion through the river, and including flow during times that do not represent actual minimum instream flow release conditions.*
>
> *The HTS method in the DLA uses composite reach calculations to average WUA results over entire river reaches. Because SFWPA's instream flow mapping approach only considered upper, middle, and lower transect sections of the same transect sites, there is no way to consider what a flow vs. WUA curve would look like at a cross section just below each dam. Instead, the river reaches are divided up into three segments by the locations of major hydrology accretion nodes. A WUA versus flow relationship for all transect locations in the river reach is then used to calculate the WUA between hydrology accretion nodes. The segments are weighted, based on the length of reach represented by minimum instream flow plus accretions. The weighted segments are added together, and WUA for the entire reach is calculated.*

> *While it is important to consider the impact of a flow release schedule on the entire river reach, this time-weighting approach alone cannot be used to set minimum instream flows. Minimum flows can have the largest impact on WUA at the top of each reach, directly below dams and diversions. These reaches should be separated out of composite calculations, and considered separately.*
>
> *The HTS method used by SFWPA in the DLA uses average daily, and average monthly flow releases over 27 years to calculate WUA values. The spreadsheet calculations first divide out flow in a river reach segment by water year type. Then within each water year type, flow in the 27-year record is predicted. Then, WUA values for each life stage are assigned for each flow, on each day, in each water year type. Next, WUA values from each day and year are included in monthly summaries. Using this method, the WUA during true base flow periods is usually masked by higher releases that are made during some, but not all, months and years.*

Forest Service staff feel that by averaging flows (both spatially and temporally), the results of the HTS analysis mask the true impact of the proposed flow regimes during times when required minimum instream flows would be released, and in stream reaches directly below the Project dams. This is shown in SFWPA Alternative Conditions Exhibit 4. SFWPA states on page 19 of its filing that ”even at the dam face, adequate habitat for protection of resources is maintained in each of the South Fork Feather reaches under SFWPA’s Alternative Condition.” The table shows clearly that during many months in every reach adult trout habitat values are below 80% of unimpaired maximum WUA values. As an example, during the month of May, averaged WUA for adult rainbow trout at the top of the Little Grass Valley reach is 34% and 39% of unimpaired WUA for dry and below normal water year types, respectively. For the three South Fork Feather Project reaches that were presented in Exhibit 4, WUA values were below Forest Service considered adequate protection values in 61% of 144 months.

On page 15 of the SFWPA Alternative Conditions document, it states, “trout habitat is maintained at over 80% of unimpaired values for all South Feather River reaches, thereby ensuring adequate protection of this resource” as indicated in Exhibit 2. Exhibit 2 adds up the total amount of trout lifestage WUA over all months of the year under SFWPA proposed Alternative Conditions by water year type over the period of record and compares it to the similar calculated trout lifestage WUA for the Forest Service 4(e) flow condition. Each of these tables shows relatively small differences (5.6 to -7.1%) between SFWPA’s proposed Alternative conditions and the Forest Service Preliminary FPA 4(e) Conditions.

What SFWPA agency fails to indicate is that these averages taken over the period of record and all months mask the timing differences between high discretionary flows and relatively low non-discretionary flow periods. These high discretionary flow periods do

not compensate for the periods where flow releases are made that do not adequately protect rainbow trout. These WUA values are of no value in determining periods when potential population bottlenecks may occur, the main Forest Service concern. Tables 1-16 display the "static" WUA values for the Forest Service revised minimum instream flow values compared to the WUA values for the Licensee's Alternative Condition Flow regime. These values represent the WUA values encountered by Rainbow Trout under the minimum flow conditions.

On page 17 SFWPA states that "it is obvious from the figures (Exhibit 5) in this exhibit that SFWPA's Alternative Condition mimics the rainfall and snow melt runoff events of a natural hydrography throughout the entire reach…". SFWPA goes on to say "except for higher summer flow in the Little Grass valley reach due to water conveyance and summer and fall low flows. Any ecological benefits of mimicking the natural hydrograph would clearly be achieved with SFWPA's Alternative Conditions." What is apparent to the Forest Service is that Exhibit 5 hydrographs are averages of all of the water years in that water year type. If the actual flow data are examined, it can be seen that drops in flow from 300 cfs to 10 cfs are made over a 24-48 hour period, which almost never occurs in a natural hydrograph. These sudden drops in flow can have severe negative effects on (1) BMI production, (2) fish and amphibian stranding, (3) crowding situations causing agonistic behaviors that result in fish body weight loss and reduction of prime feeding station locations, and (4) increased predation from sympatric larger brown trout predators. Because of this fact, and the fact that delivery flows are moved from the normal snow-melt hydrograph to late summer/fall releases, non-endemic introduced brown trout are favored over endemic rainbow trout. Due to this situation the Forest Service has included an empirical ramping determination as part of the Foothill Yellow Legged Frog Monitoring in Condition 19.

The Forest Service acknowledges there are water temperature issues due to the project flow releases throughout the project area, including Lost Creek. Forest Service staff identified flow changes that would restore the aquatic ecosystem to a more natural condition within the constraints of hydroelectric operations. One of the factors considered while identifying improvements to streamflow regimes was the maintenance of cold water temperature where appropriate, while recognizing that continued cold water releases may be detrimental to the development of rainbow trout in some areas of the project (U.S. Forest Service Preliminary Section 4(e) Terms and Conditions, April 14, 2008, Enclosure 2, page 21).
However, the Forest Service does not necessarily agree with the Licensee's assertion that Forest Service prescribed flows would depress water temperatures in Lost Creek below suitable for rainbow trout spawning.

The Forest Service addressed both the Plumas National Forest Land Management Plan goals, objectives and direction as well as our rationale and reasoning for determination of adequate streamflows in our April 14, 2008 Preliminary Section FPA 4(e) Terms and Conditions for the SFWPA Project (pages 8-9). We discussed that ecosystem attributes were considered to relate streamflow (magnitude, timing, and duration) to the suite of ecosystem attributes selected by the Forest Service and other environmental agencies

involved in the SFWPA Project relicensing. In the discussion of Lost Creek SFWPA Alternative Flow Conditions for Lost Creek, the Licensee States that Forest Service 4(e) Terms and Conditions flows would; (1) depress water temperatures in Lost creek below suitable for rainbow trout spawning and FYLF breeding in the SFFR downstream of the Lost Creek confluence, and (2) provide marginal increases in adult rainbow trout WUA.

The Licensee cites 9 °C as a Forest Service specified minimum temperature threshold for spawning (SFWPA Submittal of Alternative 4(e) Conditions, May 14, 2008, page 20). The chart cited by Licensee as showing this was meant as a tool for comparing temperatures in the Little Grass Valley reach to optimum temperatures for various rainbow trout life stages (U.S. Forest Service Preliminary Section 4(e) Terms and Conditions, April 14, 2008, Enclosure 2, page 28, Chart C). The primary concern addressed in this section of the rationale was low temperatures during the critical period of growth for trout, not spawning. Low temperatures can affect spawning, but thermal protection standards are usually based on upper thermal tolerance and optimum growth temperatures, rather than spawning temperatures (Bear et al. 2007). Nine to 14 °C can be considered optimum for rainbow trout spawning (Behnke 1992, Bell 1980, Moyle 2002), but 9 °C does not represent a Forest Service specified minimum threshold. Even if it did, according to the Licensee's analysis, 9 °C would still be attained in the reach during spawning season, even under higher flows and resultant cooler temperatures (SFWPA Submittal of Alternative 4(e) Conditions, May 14, 2008, pages 20-21). Even more importantly, temperatures within the range of rainbow trout growth requirements (10-19 °C) would also be attained in the reach (SFWPA Submittal of Alternative 4(e) Conditions, May 14, 2008, pages 20-21).

As noted by CDF&G in their letter to FERC, temperatures in the Forbestown Reach are also of concern. Maintaining temperatures below 20^{o} C to maintain healthy Rainbow Trout populations requires flows of 24 cfs in July and 13 cfs in August according to the modeling results. The Forest Service has prescribed instream flows of 19 cfs in July and August in Wet and Above Normal Water Year types and flows of 10 cfs in these months in Below Normal and Dry Water Year types. We acknowledge that these flows are less than the optimal temperature yet in attempting to balance resource needs with power production felt these flows were a good compromise. However, we realize that the SWRCB has the ultimate authority to set flows to meet Basin Plan standards and may require higher flows in their Section 401 certification. The Forest Service's Section 4(e) Condition No. 1 provides for the FS to modify our conditions to conform to the requirements set by the SWRCB.

In conclusion, Forest Service specified streamflows and resultant cooler water temperatures may have some detrimental effects to trout spawning temperatures, but improving the streamflows to match a more natural condition will be beneficial to both trout and other aquatic and riparian species. Numerous studies have stated that one of the best ways to protect California native fish species is to restore a more natural flow regime to streams (Moyle et al. 1995, Moyle et al. 1998, Myrick and Cech 2000, May and Brown 2002, Moyle 2002, Marchetti et al. 2004).

Foothill Yellow-legged Frogs (FYLF) - Higher minimum flows can have beneficial affects on FYLF habitat if other components (e.g., early spring pulses) of the natural hydrograph are also restored. The exact range of temperatures that FYLF will experience under the new flow regime needs to be monitored (see "USFS Condition No. 19: Aquatic Biological Monitoring – Part 2. Foothill Yellow-Legged Frog Monitoring" below).

We recognize that colder water and reduced variability may have affects on FYLFs immediately below Project coldwater outflows. However, SFWPA fails to mention that these affects diminish with distance and colder flows will enhance overall basin plan objectives for coldwater streams in the project area. If we were to take the SFWPA argument to its logical conclusion then we would require an immediate installation of a temperature control device on SFWPA's Little Grass Valley Dam to mitigate for deleterious temperature effects on aquatic species in the Little Grass Valley reach. We do not, however, require immediate installation of a temperature control device because cold water releases from Project facilities enhance downstream aquatic populations throughout project reaches.

For example, colder spring and summer water temperatures may result in displacement of existing populations to downstream locations. It is not clear that the conditions proposed by the licensee would provide adequate protection for FYLF either. Riparian encroachment due to historically lower flows has also impacted available habitat for FYLF. The new flow regime may remedy some of this encroachment and provide more habitat than currently exists.

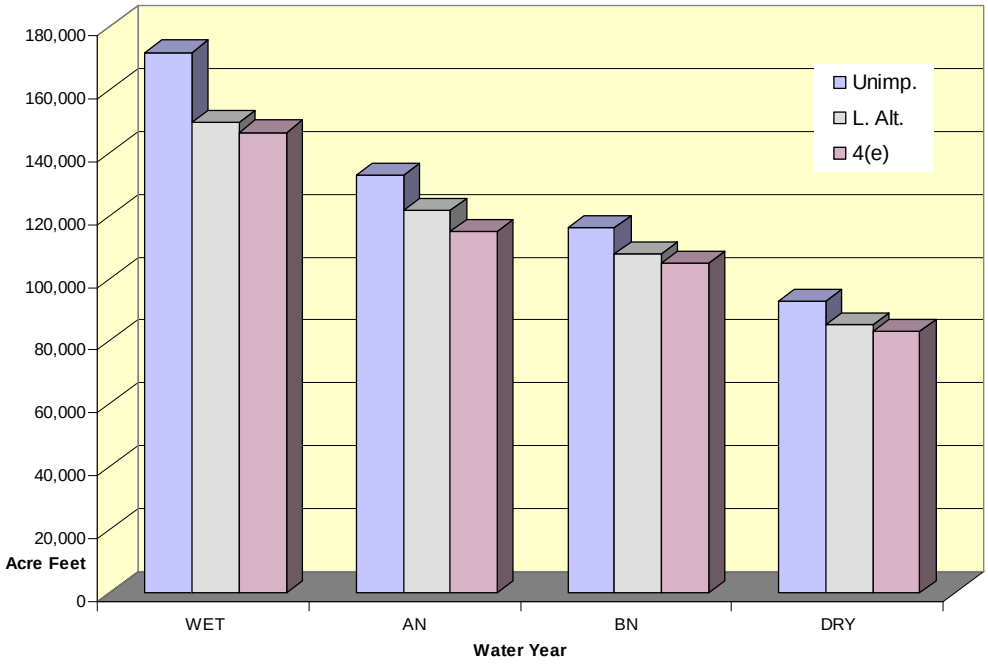
Hardhead - Licensee has suggested that Forest Service minimum flows would drop the temperature in the Forbestown reach by 1-2 degrees compared to Licensee's alternative flows, and that this slight change in temperature would have a direct adverse effect on hardhead. Hardhead often occur with trout in cool streams (10-15 °C) of the Sacramento-San Joaquin river system. Hardhead are well adapted to survive in the wide range of temperatures typical of low- to mid-elevation streams where they are found. Although a slight temperature change might change seasonal use of some habitats in the reach, it should not restrict hardhead from using the full length of the reach available to them. The temperatures would still be within suitable temperature ranges for hardhead.

Benthic Macroinvertebrates – The Licensee's Alternative Condition filing indicates that colder water may have a negative effect of BMI as evidenced by "low composite metric scores and a reduction in caddisfly taxa…immediately downstream of the Project's larger storage reservoirs and powerhouse coldwater outflows. They further indicate that cool water temperatures and water temperature variability are the two primary issues affecting BMI assemblages as identified in the SFWPA BMI studies. We recognize that colder water and reduced variability may have affects on BMI assemblages immediately below Project coldwater outflows. The discussion of cold water effects in the FYLF section above is also relevant to BMIs. The Forest Service has determined that Licensee's Section 18 Alternative Flow Condition may have localized effects on BMI's immediately below Project facilities but does not provide adequate protection of BMI's throughout project reaches.

Bald eagles –The FS shares concerns about bald eagles, in addition to other wildlife and aquatic species in the Project area. At this time, there is no evidence that there will be impacts on the bald eagle population that exists in the Project area. For this reason, we will continue to evaluate Project effects on the bald eagles and work with Licensee to discover if there are impacts due to Project operations and to determine potential mitigations that are required for their protection through the implementation of the Bald Eagle Management Plan (Condition 25).

Little Grass Valley Reservoir levels – **Reservoir Impacts - Figure** 1 demonstrates the average amount of water that is available for use and management by SFWPA in the Little Grass Valley Reach, by water year, after release of minimum stream flows. As compared to unimpaired inflow, the minimum releases have a small effect on total available water, with the difference between revised FS 4(e) flows and the Licensee's Alternative Condition stream flows being minor.

Figure 1. Comparison of Water Available in Little Grass Valley Reservoir after Instream Flow Requirments are met



The FS has worked diligently to balance the needs of the aquatic ecosystem with the effects of required instream flows on water levels in Little Grass Valley Reservoir. The FS used available modeling tools to determine to the best of our knowledge what the potential trade offs would be. While the model has been useful, it has not been totally accurate in showing the options that are available to the Licensee in managing lake levels in the reservoir. We believe that the Licensee has the ability to manage reservoir levels in a manner that is not totally dependent on reducing minimum stream flows below those that are recommended in our revised 4(e)'s.

Whitewater boating – The FS supports the beneficial use of river flows for whitewater boating. Although the release of 300 cfs in the Little Grass Valley reach in the fall does not represent a natural flow, the FS has not suggested that the Licensee change the magnitude or timing of releases, nor has the FS suggested any change in operational release of discretionary stream flows beyond the minimum streamflow requirements. The Licensee has the option of releasing water from the reservoirs later in the season and providing more recreational streamflows. The FS supports the release of water from the South Fork Diversion Dam for spring whitewater recreational use, as it is designed to occur within the natural hydrograph. We believe that this new opportunity is potentially beneficial to the aquatic ecosystem, once prescribed minimum flows are met, if releases are timed to occur prior to FYLF breeding. Currently, this opportunity is not available to whitewater boaters. Therefore, there is no effect by either condition on existing whitewater boating opportunities.

Project costs- The FS has worked diligently in good faith, to design conditions that protect, maintain, and enhance Forest resources while considering the cost of implementing the conditions to protect those resources. Streamflows based specifically on biological resource needs such as those proposed by CDF&G would result in greater impacts to power generation. The FS has not included conditions for fish screens, temperature control devices (especially at Little Grass Valley Reservoir), maintenance of the outlet at the Slate Creek diversion that would produce a greater outlet capacity, or reduction of high out-of-season sustained releases of flows in Little Grass Valley reach in the interest of minimizing the cost of implementing a new license. The determination of effects of costs to the project by the licensee does not include an analysis of the trade off of lower instream flows on the aquatic ecosystem.

Conclusion

a. The FS does not accept the Licensee Alternative Condition 18 minimum streamflow compliance determination language and has retained the original language. However, the FS is willing to further discuss this language to ensure that its intent is acceptable.

b. The FS does not accept the Licensee Alternative Condition 18 streamflows, but has modified the original FS preliminary Flow regime to more closely match the regime proposed by the Licensee

c. The FS does accept the Licensee Alternative Condition 18 Slate Creek Diversion Language, We will change the footnote to read: "49 cfs or current outlet capacity, which ever is less, but no less then 40 cfs" in Table A-5: Minimum Streamflows Slate Creek Reach Measured at USGS gage No. 11413300 (SF 10).**

Condition No.19: Aquatic Biological Monitoring –

Part 2. Foothill Yellow-legged Frog Monitoring Plan

(Note: Licensee proposed language is underlined, original FS preliminary 4(e) language that is proposed for deletion by the licensee is italicized)

Within one year of license issuance, and after consultation with the Forest Service, and other interested governmental agencies, the Licensee shall file with the FERC an amphibian monitoring plan approved by the Forest Service. The Plan shall outline sampling to be conducted in the South Fork Feather River/Lost Creek reach, Forbestown Diversion Dam reach, and the Slate Creek Diversion Dam reach. The Plan shall have two components.

- Full Reach Surveys – The Plan shall stipulate the Licensee will survey all reasonably accessible FYLF habitats (i.e. full reach surveys) in the three reaches during the first year of the license and once every 10 years thereafter. Based on relicensing FYLF studies in these reaches, Licensee anticipates the total area covered for all three reaches in the full reach surveys shall be about 6 miles. The objective of the full reach surveys is to determine the overall distributions of FYLF in each reach so that shifts in the spatial distribution of FYLF in relation to project effects can be documented.

- Representative Surveys- The Plan shall stipulate that Licensee shall survey representative areas in each reach every five years after license issuance, excluding years when full reach surveys are performed. A total of three representative sites will be selected, one in each reach. The sites shall coincide with known sites of FYLF breeding and, to the extent possible, the sites will coincide with those selected for Condition 18, Part 4, Ramping Rate, to provide continuity of information.

Monitoring methods for both full reach and representative sampling will be similar to those used during Licensee's FYLF relicensing survey (i.e., visual encounter surveys for counts of egg masses, tadpole groups, and young of the year frogs).Data collected will also be similar to those collected during Licensee's FYLF relicensing surveys.

Within 3 months of completing each annual sampling effort, Licensee shall prepare a draft report that describes the results of the sampling. The report shall discuss the findings in relation to historical information noting spatial and temporal changes in FYLF populations as well as relative abundance. The report shall also include any indications of Project effects on FYLF and, if so, recommendations for additional focused studies/analysis or implementation of resource management measures. The repot shall be provided to the Forest Service for 60-day review. Within 60 days of the close of the comment period, Licensee shall file with the Commission a final report including evidence of consultation and any written comments made by the Forest Service. Licensee shall implement any recommendations approved by the Commission.

The Amphibian Monitoring Plan for the above reaches shall include targeted monitoring of Forest Service sensitive amphibians conducted annually beginning no later than the first spring following license issuance and continuing for the first ten years of project license. Monitoring

shall be conducted every five years thereafter for the term of the license. Monitoring shall include the response of foothill yellow-legged frogs (FYLF) to changes in project flow timing and magnitude, population distribution and viability, reproductive success, verification of suitable habitat and an inventory of available habitat as compared to habitat that is actually used. Since the new minimum streamflow conditions will alter the base flow levels and timing of flows relative to recent project operation, the following shall be assessed in detail for typical oviposition (egg-laying) and rearing (tadpole) habitats for both occupied and non-occupied habitat locations: temperature regimes, riparian vegetation establishment, encroachment and scouring, habitat conditions (water depths, velocities, bank slopes, etc.), and river bar formation/loss. Following are brief descriptions of the required components of the Monitoring Plan:

(1) Population Monitoring – The Licensee shall develop and implement a plan to monitor the numbers of FYLF egg masses, tadpoles and adults on an annual basis for the first ten years of the Project License and every five years thereafter for the term of the license. The Licensee shall also develop a population model in consultation with, and approved by, the Forest Service linking various life stage data. Egg mass counts shall be quantitatively related to adult population size or overall population growth rate. Licensee shall also conduct, in consultation with the Forest Service and other interested governmental agencies, a population viability analysis as part of the biological monitoring. The population viability analysis shall quantify the trajectory (i.e. stable, increasing, decreasing, time to extinction) of the FYLF population associated with this project.

(2) Temperature Monitoring –The Licensee shall develop a temperature monitoring study to monitor water temperatures in the river, especially in the margins where eggs and tadpoles occur to assess water temperature effects on eggs and tadpoles. Licensee shall also determine the species-specific effects of temperature (warmth, cooling, and stability) on development rates of embryos (eggs) and larvae (tadpoles), growth rates of tadpoles, and size at metamorphosis.

(3) Geomorphology and Riparian Encroachment Monitoring –The geomorphologic and riparian vegetation response to the new flow regime in FYLF habitats shall be monitored through the course of the license. Substantial changes in bar geomorphology and/or riparian vegetation encroachment that may in turn affect habitat suitability for FYLF shall be cause for reassessment of stream flow prescriptions.

(4) Habitat Monitoring – The Licensee shall develop a 2-D habitat model or other appropriate model to empirically determine the relationship between discharge to velocity and discharge to stage at egg mass and tadpole sites. This information will be used to assess the suitability of the ramping rates prescribed in Condition 18, Part 5. Overall availability of suitable breeding/rearing habitats for the FYLF will be monitored in relation to both short and long-term changes. Short-term changes relate to flow fluctuations from project operations and/or recreational boating flow releases. Long-term changes relate to processes that maintain suitable river bar habitats under the new license.

The Licensee shall provide results of amphibian monitoring in a report to the FERC, Forest Service, and other interested governmental agencies at the annual consultation meeting

described in Condition No. 3. Amphibian monitoring shall enumerate changes in habitat occupied, including extent of occupation and trends in FYLF abundance. In addition to describing the results, the report shall compare the results with those of previous surveys.

Summary of Alternative Condition –

The licensee proposes to eliminate the Forest Service Amphibian Monitoring Plan and replace it with a plan that proposes; (1) full reach surveys totaling approximately six miles; (2) representative surveys at three sites; (3) monitoring methods used in the re-licensing surveys; (4) an alternative monitoring reporting methodology; and (5) does not include water temperature, geomorphology, or habitat monitoring.

Forest Service Analysis –

Licensee has stated that full reach monitoring is anticipated to cover "about 6 miles". Given the total miles of stream in the project and previously evaluated for biological surveys were nearly 38 miles, the licensee's definition of "full reach" is unclear.

The inadequacy of surveys during the relicensing period coupled with the unknown outcome of new license conditions calls for detailed monitoring of FYLF populations and habitat conditions, including water temperature and geomorphology, during the new license. The new minimum streamflow conditions will alter the base flow levels and the timing of flows relative to recent project operation and expectations are that these changes could affect the FYLF population directly (egg/tadpole scouring or stranding), or indirectly (unsuitable water temperatures, changes in geomorphic characteristics of breeding sites, changes in habitat suitability due to inappropriate ramping rates). The licensee proposed monitoring FYLF populations only, not habitat conditions and their population monitoring approach is based on incomplete information about the distribution of FYLF within the project area. Thus, more detailed monitoring as described in the Forest Service proposed condition above is needed.

Licensees propose "three representative sites will be selected, one in each reach". Forest Service believes selection of representative sites should be "representative" and that the location of these sites and the appropriate number of sites cannot be determined until after full reach surveys are conducted and the current distribution of FYLF is known. The three reaches proposed by the licensee (SF Feather/Lost Creek, Forbestown Diversion Dam, and Slate Creek) are reaches where FYLF was detected during 2004-2005 surveys.
However, since the Forest Service believes that these surveys were inadequate, the true distribution and status of FYLF in the project area remains unknown.

The licensee did not conduct adequate surveys during the relicensing period. Specifically, surveys were only conducted at a few sites in each project reach. For example, only 2 sites were surveyed in the Little Grass Valley Dam reach and they were both in the most downstream portion of that reach. The river and creek survey distances were relatively short (100-450m, with an average length of about 200m). Recent relicensings (e.g., Placer County Water Agency 2008 and PG&E/NID Drum-Spaulding/Yuba-Bear 2008) typically include survey sites of 1000m with tributary surveys of up to 1 mile. Apart from surveys in Lost Creek (which has its own and

different project effects), only one tributary to the SF Feather was surveyed (Rock Creek). Tributary surveys provide information on the complete distribution of FYLF in the study area, even in areas where the mainstem river may now be unsuitable due to project operations.

It is also likely that the Licensee has overestimated the cost of implementing the FYLF monitoring by a considerable amount based on comparable surveys conducted for other licenses in the Sierra Nevada region.

Population – Full reach surveys and tributary surveys are required in the first year because surveys during the licensing period (provided in the license application) were a subset of all potential FYLF habitats, rather than full reach. Thus, the distribution of FYLF throughout the project area is not currently known. The objective of the full reach surveys is to determine the overall distribution of FYLF in the project area, so that population shifts either upstream or downstream, local extinctions and colonizations can be documented. Annual monitoring during the first five years will provide a baseline of the population status and more importantly will indicate if new flow regimes are having negative effects. Annual monitoring at the end of the license period will provide baseline data for the next relicensing. Monitoring at four year intervals between these periods provides checkpoints on the population status during the course of the license.

If population modeling is deemed necessary, collection of South Feather specific demographic data should done for fours years, in conjunction with the FYLF annual monitoring. Analyses from an existing population model (Kupferberg et al. 2009) will help direct the appropriate data to collect. It is likely that data collection can be focused on a few key parameters rather than all that are typically needed for a population model. The results of this data collection will be used in an existing, peer-reviewed population model for FYLF (funded by the California Energy Commission and developed in collaboration between the by the Forest Service Pacific Southwest Research Station, U.C. Berkeley, and Simon Fraser University scientists; Kupferberg et al. 2009). This model can be used to relate annual counts of egg masses (as a population index) to overall population status. It can also provide a population viability analysis for SF Feather populations of FYLF. Such an analysis will quantify the trajectory (i.e. stable, increasing, decreasing, time to extinction). The development of this demographic data shall be done in consultation with, and approved by, the Forest Service.

The South Feather specific model is then the appropriate tool to use to conduct a population viability analysis. This analysis will indicate whether the FYLF population is stable, declining, or increasing and will aid in evaluation of effects of minimum flows.
Unlike the licensee's proposal, the Forest Service recommendation for full reach surveys is anticipated to cover all stream reaches in the project area that could harbor FYLF (Little Grass Valley Dam, South Fork Diversion Dam, SF Feather River/Lost Creek, Forbestown Diversion Dam, Slate Creek Diversion Dam, and Lost Creek Dam) and tributary streams within these reaches. Based on reach lengths provided in the license application, that would total nearly 38 miles of stream. The Forest Service recognizes that some areas have very difficult access and so expects that only reasonably accessible stream reaches will receive visual encounters surveys.

Temperature – Water temperatures influence the growth and survival of FYLF. Recent work in a Coast Range river has shown that there are relatively narrow ranges of water temperatures that provide for successful growth and survival of tadpoles; i.e. too low is detrimental but so is too high (Catenazzi and Kupferberg 2008). In addition, collected information from several Sierra Nevada rivers indicates that FYLF breeding sites occur downstream of cold water releases only when water temperatures reach certain thresholds (S. Yarnell, pers. comm., Placer CountyWaterAgency 2008). Water temperatures are currently low in the river reaches below Little Grass Valley reservoir due to hypolimnetic releases (see SFWPA License Application, pages E2-175-186). The current distribution of FYLF in the South Feather river reaches furthest downstream from Little Grass Valley reservoir may be due to low temperatures (S. Wilcox, pers. comm). The proposed increases in minimum flows are likely to reduce water temperatures further. Depending on what the actual new water temperature range is and how it differs both laterally and longitudinally along the river, FYLF may experience unsuitable water temperatures. The proposed monitoring will evaluate temperatures at/near breeding sites and effects on development of eggs and tadpoles. The results can be compared to ongoing studies of temperature tolerances (e.g., Catenazzi and Kupferberg 2008 and related ongoing studies).

Habitat – Geomorphologic and riparian vegetation responses to proposed new minimum flows are not known. Increases in minimum flows could reduce or increase riparian encroachment depending on other hydrologic factors (e.g., winter pulse flows). These responses could maintain or reduce suitable river bar and other breeding habitats for FYLF. Monitoring for this element will tie in closely with the Riparian Vegetation Monitoring and Treatment condition. The features of river bars and other breeding sites that will be monitored (e.g., size, slope, vegetative cover) were selected because they are related to known egg laying and rearing habitat requirements for FYLF (Kupferberg et al. 2008, Lind et al. 2008). These responses relate to processes that maintain suitable river bar and other habitats under the new license.

Ramping Rate Determination – The ramping rates prescribed in Condition 18, part 5 have not been tested in the South Feather river system. These rates were set to reduce the likelihood of stranding or scouring of FYLF egg masses and tadpoles. Development of an appropriate habitat assessment method for FYLF will allow evaluation of the ramping rates for different water year types and flow conditions and also provide a tool that could be used to set rates that are more effective.

Conclusion – The FS does not accept the Licensee's alternative condition but has rewritten the FS condition to provide consistency with other FYLF survey protocols on adjacent licenses.

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Appendix

Comparison of WUA Values for Licensee's Alternative Conditions and FS Revised Minimum Instream Flow

Table 1. Little Grass Valley Reach, Wet Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**15**	**15**	**15**	**15**	**15**	**15**	**46**	**73**	**99**	**126**	**126**	**126**	**36**	**15**	**15**	**15**
WUA (% of Max)	Juvenile	58%	58%	58%	58%	58%	58%	93%	100%	96%	93%	93%	93%	87%	58%	58%	58%
	Adult	31%	31%	31%	31%	31%	31%	73%	93%	99%	100%	100%	100%	61%	31%	31%	31%
	Fry	95%	95%	95%	95%	95%	95%	79%	77%	79%	79%	79%	79%	80%	95%	95%	95%
	Spawn	64%	64%	64%	64%	64%	64%	98%	100%	95%	88%	88%	88%	93%	64%	64%	64%
FS Proposed Flow (cfs)		**19**	**19**	**19**	**19**	**19**	**19**	**46**	**73**	**99**	**126**	**126**	**126**	**53**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	66%	66%	66%	66%	66%	66%	93%	100%	96%	93%	93%	93%	96%	66%	66%	66%
	Adult	38%	38%	38%	38%	38%	38%	73%	93%	99%	100%	100%	100%	79%	38%	38%	38%
	Fry	88%	88%	88%	88%	88%	88%	79%	77%	79%	79%	79%	79%	79%	88%	88%	88%
	Spawn	75%	75%	75%	75%	75%	75%	98%	100%	95%	88%	88%	88%	99%	75%	75%	75%
% Increase in WUA over LICENSEE'S	Juvenile	8%	8%	8%	8%	8%	8%	0%	0%	0%	0%	0%	0%	10%	8%	8%	8%
	Adult	7%	7%	7%	7%	7%	7%	0%	0%	0%	0%	0%	0%	18%	7%	7%	7%
	Fry	-7%	-7%	-7%	-7%	-7%	-7%	0%	0%	0%	0%	0%	0%	0%	-7%	-7%	-7%
	Spawn	11%	11%	11%	11%	11%	11%	0%	0%	0%	0%	0%	0%	6%	11%	11%	11%

Table 2. Little Grass Valley Reach, Above Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**15**	**15**	**15**	**15**	**24**	**24**	**24**	**24**	**48**	**36**	**24**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	45%	45%	58%	58%	58%	58%	74%	74%	74%	74%	95%	87%	74%	58%	45%	45%
	Adult	22%	22%	31%	31%	31%	31%	46%	46%	46%	46%	75%	61%	46%	31%	22%	22%
	Fry	99%	99%	95%	95%	95%	95%	86%	86%	86%	86%	79%	80%	86%	95%	99%	99%
	Spawn	51%	51%	64%	64%	64%	64%	81%	81%	81%	81%	98%	93%	81%	64%	51%	51%
FS Proposed Flow (cfs)		**15**	**15**	**15**	**15**	**15**	**19**	**46**	**46**	**46**	**46**	**99**	**46**	**46**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	58%	58%	58%	58%	58%	66%	93%	93%	93%	93%	96%	93%	93%	66%	66%	66%
	Adult	31%	31%	31%	31%	31%	38%	73%	73%	73%	73%	99%	73%	73%	38%	38%	38%
	Fry	95%	95%	95%	95%	95%	88%	79%	79%	79%	79%	79%	79%	79%	88%	88%	88%
	Spawn	64%	64%	64%	64%	64%	75%	98%	98%	98%	98%	95%	98%	98%	75%	75%	75%
% Increase in WUA over LICENSEE'S	Juvenile	12%	12%	0%	0%	0%	8%	19%	19%	19%	19%	1%	7%	19%	8%	21%	21%
	Adult	9%	9%	0%	0%	0%	7%	27%	27%	27%	27%	23%	11%	27%	7%	16%	16%
	Fry	-4%	-4%	0%	0%	0%	-7%	-7%	-7%	-7%	-7%	-1%	0%	-7%	-7%	-11%	-11%
	Spawn	13%	13%	0%	0%	0%	11%	17%	17%	17%	17%	-3%	4%	17%	11%	24%	24%

Table 3. Little Grass Valley Reach. Below Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**10**	**36**	**36**	**36**	**36**	**15**	**15**	**10**	**10**	**10**	**10**
WUA (% of Max)	Juvenile	45%	45%	45%	45%	45%	45%	87%	87%	87%	87%	58%	58%	45%	45%	45%	45%
	Adult	22%	22%	22%	22%	22%	22%	61%	61%	61%	61%	31%	31%	22%	22%	22%	22%
	Fry	99%	99%	99%	99%	99%	99%	80%	80%	80%	80%	95%	95%	99%	99%	99%	99%
	Spawn	51%	51%	51%	51%	51%	51%	93%	93%	93%	93%	64%	64%	51%	51%	51%	51%
FS Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**28**	**36**	**36**	**36**	**36**	**28**	**28**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	45%	45%	45%	45%	45%	66%	79%	87%	87%	87%	87%	79%	79%	58%	45%	45%
	Adult	22%	22%	22%	22%	22%	38%	51%	61%	61%	61%	61%	51%	51%	31%	22%	22%
	Fry	99%	99%	99%	99%	99%	88%	84%	80%	80%	80%	80%	84%	84%	95%	99%	99%
	Spawn	51%	51%	51%	51%	51%	75%	85%	93%	93%	93%	93%	85%	85%	64%	51%	51%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	21%	-8%	0%	0%	0%	29%	21%	33%	12%	0%	0%
	Adult	0%	0%	0%	0%	0%	16%	-10%	0%	0%	0%	30%	20%	29%	9%	0%	0%
	Fry	0%	0%	0%	0%	0%	-11%	5%	0%	0%	0%	-15%	-11%	-15%	-4%	0%	0%
	Spawn	0%	0%	0%	0%	0%	24%	-8%	0%	0%	0%	29%	21%	35%	13%	0%	0%

Table 4. Little Grass Valley Reach, Dry Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**10**	**24**	**24**	**24**	**24**	**12**	**12**	**10**	**10**	**10**	**10**
WUA (% of Max)	Juvenile	45%	45%	45%	45%	45%	45%	74%	74%	74%	74%	51%	51%	45%	45%	45%	45%
	Adult	22%	22%	22%	22%	22%	22%	46%	46%	46%	46%	26%	26%	22%	22%	22%	22%
	Fry	99%	99%	99%	99%	99%	99%	86%	86%	86%	86%	99%	99%	99%	99%	99%	99%
	Spawn	51%	51%	51%	51%	51%	51%	81%	81%	81%	81%	56%	56%	51%	51%	51%	51%
FS Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**26**	**26**	**26**	**26**	**26**	**26**	**19**	**10**	**10**	**10**
WUA (% of Max)	Juvenile	45%	45%	45%	45%	45%	66%	77%	77%	77%	77%	77%	77%	66%	45%	45%	45%
	Adult	22%	22%	22%	22%	22%	38%	49%	49%	49%	49%	49%	49%	38%	22%	22%	22%
	Fry	99%	99%	99%	99%	99%	88%	86%	86%	86%	86%	86%	86%	88%	99%	99%	99%
	Spawn	51%	51%	51%	51%	51%	75%	83%	83%	83%	83%	83%	83%	75%	51%	51%	51%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	21%	3%	3%	3%	3%	26%	26%	21%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	16%	3%	3%	3%	3%	23%	23%	16%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	-11%	-1%	-1%	-1%	-1%	-13%	-13%	-11%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	24%	2%	2%	2%	2%	27%	27%	24%	0%	0%	0%

Table 5. Below South Feather Diversion Reach, Wet Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**19**	**19**	**19**	**19**	**19**	**19**	**46**	**73**	**99**	**126**	**126**	**126**	**53**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	74%	74%	74%	74%	74%	74%	93%	98%	100%	99%	99%	99%	95%	74%	74%	74%
	Adult	45%	45%	45%	45%	45%	45%	72%	88%	94%	99%	99%	99%	77%	45%	45%	45%
	Fry	90%	90%	90%	90%	90%	90%	76%	59%	58%	53%	53%	53%	74%	90%	90%	90%
	Spawn	54%	54%	54%	54%	54%	54%	71%	91%	95%	98%	98%	98%	73%	54%	54%	54%
FS Proposed Flow (cfs)		**19**	**19**	**19**	**19**	**19**	**19**	**46**	**73**	**99**	**126**	**126**	**126**	**53**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	74%	74%	74%	74%	74%	74%	93%	98%	100%	99%	99%	99%	95%	74%	74%	74%
	Adult	45%	45%	45%	45%	45%	45%	72%	88%	94%	99%	99%	99%	77%	45%	45%	45%
	Fry	90%	90%	90%	90%	90%	90%	76%	59%	58%	53%	53%	53%	74%	90%	90%	90%
	Spawn	54%	54%	54%	54%	54%	54%	71%	91%	95%	98%	98%	98%	73%	54%	54%	54%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%
	Adult	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%
	Fry	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-2%
	Spawn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%

Table 6. Below South Feather Diversion Reach, Above Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**19**	**19**	**19**	**19**	**36**	**36**	**36**	**36**	**73**	**53**	**35**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	57%	57%	74%	74%	74%	74%	89%	89%	89%	89%	98%	95%	89%	67%	57%	57%
	Adult	30%	30%	45%	45%	45%	45%	64%	64%	64%	64%	88%	77%	63%	39%	30%	30%
	Fry	94%	94%	90%	90%	90%	90%	80%	80%	80%	80%	59%	74%	80%	92%	94%	94%
	Spawn	41%	41%	54%	54%	54%	54%	67%	67%	67%	67%	91%	73%	67%	50%	41%	41%
FS Proposed Flow (cfs)		**15**	**15**	**15**	**15**	**15**	**19**	**46**	**46**	**46**	**46**	**99**	**46**	**46**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	67%	67%	67%	67%	67%	74%	93%	93%	93%	93%	100%	93%	93%	74%	74%	74%
	Adult	39%	39%	39%	39%	39%	45%	72%	72%	72%	72%	94%	72%	72%	45%	45%	45%
	Fry	92%	92%	92%	92%	92%	90%	76%	76%	76%	76%	58%	76%	76%	90%	90%	90%
	Spawn	50%	50%	50%	50%	50%	54%	71%	71%	71%	71%	95%	71%	71%	54%	54%	54%
% Increase in WUA over LICENSEE'S	Juvenile	10%	10%	-6%	-6%	-6%	0%	4%	4%	4%	4%	1%	-2%	5%	6%	16%	16%
	Adult	9%	9%	-6%	-6%	-6%	0%	8%	8%	8%	8%	6%	-5%	9%	6%	15%	15%
	Fry	-2%	-2%	2%	2%	2%	0%	-4%	-4%	-4%	-4%	-1%	2%	-4%	-2%	-4%	-4%
	Spawn	9%	9%	-4%	-4%	-4%	0%	4%	4%	4%	4%	4%	-2%	4%	4%	13%	13%

Table 7. Below South Feather Diversion Reach. Below Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**36**	**36**	**36**	**36**	**28**	**28**	**20**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	57%	57%	57%	57%	57%	74%	89%	89%	89%	89%	84%	84%	75%	67%	57%	57%
	Adult	30%	30%	30%	30%	30%	45%	64%	64%	64%	64%	56%	56%	46%	39%	30%	30%
	Fry	94%	94%	94%	94%	94%	90%	80%	80%	80%	80%	85%	85%	90%	92%	94%	94%
	Spawn	41%	41%	41%	41%	41%	54%	67%	67%	67%	67%	62%	62%	55%	50%	41%	41%
FS Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**28**	**36**	**36**	**36**	**36**	**28**	**28**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	57%	57%	57%	57%	57%	74%	84%	89%	89%	89%	89%	84%	84%	67%	57%	57%
	Adult	30%	30%	30%	30%	30%	45%	56%	64%	64%	64%	64%	56%	56%	39%	30%	30%
	Fry	94%	94%	94%	94%	94%	90%	85%	80%	80%	80%	80%	85%	85%	92%	94%	94%
	Spawn	41%	41%	41%	41%	41%	54%	62%	67%	67%	67%	67%	62%	62%	50%	41%	41%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	-5%	0%	0%	0%	5%	0%	9%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	-8%	0%	0%	0%	8%	0%	10%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	-5%	0%	-5%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	-6%	0%	0%	0%	6%	0%	6%	0%	0%	0%

Table 8. Below South Feather Diversion Reach, Dry Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**28**	**28**	**28**	**28**	**24**	**24**	**15**	**10**	**10**	**10**
WUA (% of Max)	Juvenile	57%	57%	57%	57%	57%	74%	84%	84%	84%	84%	80%	80%	67%	57%	57%	57%
	Adult	30%	30%	30%	30%	30%	45%	56%	56%	56%	56%	51%	51%	39%	30%	30%	30%
	Fry	94%	94%	94%	94%	94%	90%	85%	85%	85%	85%	87%	87%	92%	94%	94%	94%
	Spawn	41%	41%	41%	41%	41%	54%	62%	62%	62%	62%	59%	59%	50%	41%	41%	41%
FS Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**26**	**26**	**26**	**26**	**26**	**26**	**19**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	57%	57%	57%	57%	57%	74%	82%	82%	82%	82%	82%	82%	74%	67%	57%	57%
	Adult	30%	30%	30%	30%	30%	45%	54%	54%	54%	54%	54%	54%	45%	39%	30%	30%
	Fry	94%	94%	94%	94%	94%	90%	86%	86%	86%	86%	86%	86%	90%	92%	94%	94%
	Spawn	41%	41%	41%	41%	41%	54%	59%	59%	59%	59%	59%	59%	54%	50%	41%	41%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	-2%	-2%	-2%	-2%	2%	2%	6%	10%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	-2%	-2%	-2%	-2%	3%	3%	6%	9%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	-1%	-1%	-2%	-2%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	-2%	-2%	-2%	-2%	1%	1%	4%	9%	0%	0%

Table 9. Forbestown Diversion Reach, Wet Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**19**	**19**	**19**	**19**	**19**	**19**	**46**	**73**	**99**	**126**	**126**	**126**	**53**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	84%	84%	84%	84%	84%	84%	99%	98%	92%	84%	84%	84%	100%	84%	84%	84%
	Adult	58%	58%	58%	58%	58%	58%	84%	94%	99%	100%	100%	100%	88%	58%	58%	58%
	Fry	71%	71%	71%	71%	71%	71%	49%	39%	35%	33%	33%	33%	45%	71%	71%	71%
	Spawn	74%	74%	74%	74%	74%	74%	95%	99%	94%	83%	83%	83%	99%	74%	74%	74%
FS Proposed Flow (cfs)		**19**	**19**	**19**	**19**	**19**	**19**	**46**	**73**	**99**	**126**	**126**	**126**	**53**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	84%	84%	84%	84%	84%	84%	99%	98%	92%	84%	84%	84%	100%	84%	84%	84%
	Adult	58%	58%	58%	58%	58%	58%	84%	94%	99%	100%	100%	100%	88%	58%	58%	58%
	Fry	71%	71%	71%	71%	71%	71%	49%	39%	35%	33%	33%	33%	45%	71%	71%	71%
	Spawn	74%	74%	74%	74%	74%	74%	95%	99%	94%	83%	83%	83%	99%	74%	74%	74%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table 10. Forbestown Diversion Reach, Above Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**19**	**19**	**19**	**19**	**36**	**36**	**36**	**36**	**73**	**53**	**35**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	71%	71%	84%	84%	84%	84%	96%	96%	96%	96%	98%	100%	95%	80%	71%	71%
	Adult	42%	42%	58%	58%	58%	58%	78%	78%	78%	78%	94%	88%	77%	52%	42%	42%
	Fry	90%	90%	71%	71%	71%	71%	55%	55%	55%	55%	39%	45%	56%	79%	90%	90%
	Spawn	52%	52%	74%	74%	74%	74%	92%	92%	92%	92%	99%	99%	92%	64%	52%	52%
FS Proposed Flow (cfs)		**15**	**15**	**15**	**15**	**15**	**19**	**46**	**46**	**46**	**46**	**99**	**46**	**46**	**19**	**19**	**19**
WUA (% of Max)	Juvenile	80%	80%	80%	80%	80%	84%	99%	99%	99%	99%	92%	99%	99%	84%	84%	84%
	Adult	52%	52%	52%	52%	52%	58%	84%	84%	84%	84%	99%	84%	84%	58%	58%	58%
	Fry	79%	79%	79%	79%	79%	71%	49%	49%	49%	49%	35%	49%	49%	71%	71%	71%
	Spawn	64%	64%	64%	64%	64%	74%	95%	95%	95%	95%	94%	95%	95%	74%	74%	74%
% Increase in WUA over LICENSEE'S	Juvenile	9%	9%	-5%	-5%	-5%	0%	3%	3%	3%	3%	-6%	-1%	4%	5%	13%	13%
	Adult	10%	10%	-7%	-7%	-7%	0%	6%	6%	6%	6%	4%	-4%	7%	7%	17%	17%
	Fry	-11%	-11%	8%	8%	8%	0%	-6%	-6%	-6%	-6%	-4%	4%	-7%	-8%	-19%	-19%
	Spawn	12%	12%	-11%	-11%	-11%	0%	3%	3%	3%	3%	-6%	-4%	3%	11%	23%	23%

Table 11. Forbestown Diversion Reach. Below Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**36**	**36**	**36**	**36**	**28**	**28**	**20**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	71%	71%	71%	71%	71%	84%	96%	96%	96%	96%	92%	92%	85%	80%	71%	71%
	Adult	42%	42%	42%	42%	42%	58%	78%	78%	78%	78%	71%	71%	60%	52%	42%	42%
	Fry	90%	90%	90%	90%	90%	71%	55%	55%	55%	55%	61%	61%	70%	79%	90%	90%
	Spawn	52%	52%	52%	52%	52%	74%	92%	92%	92%	92%	86%	86%	76%	64%	52%	52%
FS Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**28**	**36**	**36**	**36**	**36**	**28**	**28**	**15**	**10**	**10**
WUA (% of Max)	Juvenile	71%	71%	71%	71%	71%	84%	92%	96%	96%	96%	96%	92%	92%	80%	71%	71%
	Adult	42%	42%	42%	42%	42%	58%	71%	78%	78%	78%	78%	71%	71%	52%	42%	42%
	Fry	90%	90%	90%	90%	90%	71%	61%	55%	55%	55%	55%	61%	61%	79%	90%	90%
	Spawn	52%	52%	52%	52%	52%	74%	86%	92%	92%	92%	92%	86%	86%	64%	52%	52%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	-3%	0%	0%	0%	3%	0%	7%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	-7%	0%	0%	0%	7%	0%	11%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	-5%	0%	-9%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	-6%	0%	0%	0%	6%	0%	11%	0%	0%	0%

Table 12. Forbestown Diversion Reach, Dry Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**28**	**28**	**28**	**28**	**24**	**24**	**15**	**10**	**10**	**10**
WUA (% of Max)	Juvenile	71%	71%	71%	71%	71%	84%	92%	92%	92%	92%	89%	89%	80%	71%	71%	71%
	Adult	42%	42%	42%	42%	42%	58%	71%	71%	71%	71%	66%	66%	52%	42%	42%	42%
	Fry	90%	90%	90%	90%	90%	71%	61%	61%	61%	61%	65%	65%	79%	90%	90%	90%
	Spawn	52%	52%	52%	52%	52%	74%	86%	86%	86%	86%	82%	82%	64%	52%	52%	52%
FS Proposed Flow (cfs)		**10**	**10**	**10**	**10**	**10**	**19**	**26**	**26**	**26**	**26**	**26**	**26**	**19**	**10**	**10**	**10**
WUA (% of Max)	Juvenile	71%	71%	71%	71%	71%	84%	91%	91%	91%	91%	91%	91%	84%	71%	71%	71%
	Adult	42%	42%	42%	42%	42%	58%	69%	69%	69%	69%	69%	69%	58%	42%	42%	42%
	Fry	90%	90%	90%	90%	90%	71%	63%	63%	63%	63%	63%	63%	71%	90%	90%	90%
	Spawn	52%	52%	52%	52%	52%	74%	84%	84%	84%	84%	84%	84%	74%	52%	52%	52%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	-1%	-1%	-1%	-1%	2%	2%	5%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	-2%	-2%	-2%	-2%	3%	3%	7%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	2%	2%	2%	2%	-2%	-2%	-8%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	-2%	-2%	-2%	-2%	2%	2%	11%	0%	0%	0%

Table 13. Lost Creek Reach, Wet Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**20**	**45**	**30**	**30**	**30**	**30**	**20**	**20**	**16**	**8**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	83%	99%	93%	93%	93%	93%	83%	83%	76%	54%	54%	54%
	Adult	27%	27%	27%	27%	58%	89%	74%	74%	74%	74%	58%	58%	49%	27%	27%	27%
	Fry	100%	100%	100%	100%	91%	67%	80%	80%	80%	80%	91%	91%	95%	100%	100%	100%
	Spawn	72%	72%	72%	72%	95%	94%	100%	100%	100%	100%	95%	95%	90%	72%	72%	72%
FS Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**20**	**60**	**30**	**30**	**30**	**30**	**30**	**30**	**20**	**10**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	83%	99%	93%	93%	93%	93%	93%	93%	83%	62%	54%	54%
	Adult	27%	27%	27%	27%	58%	97%	74%	74%	74%	74%	74%	74%	58%	34%	27%	27%
	Fry	100%	100%	100%	100%	91%	60%	80%	80%	80%	80%	80%	80%	91%	100%	100%	100%
	Spawn	72%	72%	72%	72%	95%	85%	100%	100%	100%	100%	100%	100%	95%	78%	72%	72%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	10%	6%	8%	0%	0%
	Adult	0%	0%	0%	0%	0%	8%	0%	0%	0%	0%	16%	16%	9%	7%	0%	0%
	Fry	0%	0%	0%	0%	0%	-7%	0%	0%	0%	0%	-11%	-11%	-4%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	-9%	0%	0%	0%	0%	5%	5%	5%	6%	0%	0%

Table 14. Lost Creek Reach, Above Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**20**	**45**	**30**	**30**	**30**	**30**	**20**	**20**	**16**	**8**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	83%	99%	93%	93%	93%	93%	83%	83%	76%	54%	54%	54%
	Adult	27%	27%	27%	27%	58%	89%	74%	74%	74%	74%	58%	58%	49%	27%	27%	27%
	Fry	100%	100%	100%	100%	91%	67%	80%	80%	80%	80%	91%	91%	95%	100%	100%	100%
	Spawn	72%	72%	72%	72%	95%	94%	100%	100%	100%	100%	95%	95%	90%	72%	72%	72%
FS Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**20**	**45**	**30**	**30**	**30**	**30**	**20**	**20**	**16**	**8**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	83%	99%	93%	93%	93%	93%	83%	83%	76%	54%	54%	54%
	Adult	27%	27%	27%	27%	58%	89%	74%	74%	74%	74%	58%	58%	49%	27%	27%	27%
	Fry	100%	100%	100%	100%	91%	67%	80%	80%	80%	80%	91%	91%	95%	100%	100%	100%
	Spawn	72%	72%	72%	72%	95%	94%	100%	100%	100%	100%	95%	95%	90%	72%	72%	72%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table 15. Lost Creek Reach. Below Normal Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**16**	**40**	**25**	**25**	**25**	**25**	**20**	**20**	**12**	**8**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	76%	98%	89%	89%	89%	89%	83%	83%	67%	54%	54%	54%
	Adult	27%	27%	27%	27%	49%	85%	66%	66%	66%	66%	58%	58%	38%	27%	27%	27%
	Fry	100%	100%	100%	100%	95%	70%	85%	85%	85%	85%	91%	91%	96%	100%	100%	100%
	Spawn	72%	72%	72%	72%	90%	97%	99%	99%	99%	99%	95%	95%	82%	72%	72%	72%
FS Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**16**	**40**	**25**	**25**	**25**	**25**	**20**	**20**	**12**	**8**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	76%	98%	89%	89%	89%	89%	83%	83%	67%	54%	54%	54%
	Adult	27%	27%	27%	27%	49%	85%	66%	66%	66%	66%	58%	58%	38%	27%	27%	27%
	Fry	100%	100%	100%	100%	95%	70%	85%	85%	85%	85%	91%	91%	96%	100%	100%	100%
	Spawn	72%	72%	72%	72%	90%	97%	99%	99%	99%	99%	95%	95%	82%	72%	72%	72%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table 16. Lost Creek Reach, Dry Water Year

		OCT	NOV	DEC	JAN	FEB	MAR	APR 1-7	APR 8-14	APR 15-21	APR 22-30	MAY 1-15	MAY 16-31	JUN	JUL	AUG	SEP
LICENSEE'S Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**12**	**30**	**20**	**20**	**20**	**20**	**15**	**15**	**12**	**8**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	67%	93%	83%	83%	83%	83%	72%	72%	67%	54%	54%	54%
	Adult	27%	27%	27%	27%	38%	74%	58%	58%	58%	58%	44%	44%	38%	27%	27%	27%
	Fry	100%	100%	100%	100%	96%	80%	91%	91%	91%	91%	96%	96%	96%	100%	100%	100%
	Spawn	72%	72%	72%	72%	82%	100%	95%	95%	95%	95%	86%	86%	82%	72%	72%	72%
FS Proposed Flow (cfs)		**8**	**8**	**8**	**8**	**12**	**30**	**20**	**20**	**20**	**20**	**15**	**15**	**12**	**8**	**8**	**8**
WUA (% of Max)	Juvenile	54%	54%	54%	54%	67%	93%	83%	83%	83%	83%	72%	72%	67%	54%	54%	54%
	Adult	27%	27%	27%	27%	38%	74%	58%	58%	58%	58%	44%	44%	38%	27%	27%	27%
	Fry	100%	100%	100%	100%	96%	80%	91%	91%	91%	91%	96%	96%	96%	100%	100%	100%
	Spawn	72%	72%	72%	72%	82%	100%	95%	95%	95%	95%	86%	86%	82%	72%	72%	72%
% Increase in WUA over LICENSEE'S	Juvenile	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Adult	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Fry	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Spawn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

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