

Appendix C

Plan Details

Appendix C – Plan Details

Plan details in this enclosure were taken from the Forest Service October 9, 2002 Preliminary 4(e) conditions and modified. FERC’s Draft EIS recommended that many of the previous Forest Service license conditions specific to monitoring and resource mitigation be combined into one condition, now labeled as the “Land and Habitat Management Plans for Mitigating Project Affects to NFS Resources”. This Appendix is the repository for the details which are too specific to be incorporated into the new license condition with its broadened scope. However, these specifics are a part of the 4(e) license condition #20 in Enclosure 1. By displaying the detail in this Appendix, it provides the Licensee and the FERC with a better understanding of concerns to be addressed in the plans to be developed by PG&E, the extent of FS mitigations for developing cost estimates, and provides a way to track issues as we move from Licensee issuance to Plan development stages of this relicensing.

The letter headings below correspond to the same lettered components of the “Land and Habitat Management Plans for Mitigating Project Affects to NFS Resources” License Condition in Enclosure 1.

a. Erosion and Sediment Control Plan Details:

General plan conditions for erosion not covered in other plans such as spoil piles and road management below.

b. Spoil Pile Management Plan Details:

General Spoil Disposal requirements:

- Remove all road spoil piles not currently located in approved areas on NFSL to a location either off the Forest, or to a Forest Service approved disposal site. Revegetate removal area with approved native (locally collected) seed to reduce invasion of noxious weeds. Monitor and eradicate noxious weeds as specified in the “Noxious Weeds Management Plan” license condition.
- All visible non-native materials, including construction debris shall be removed from the surface of piles located on NFSL.
- All native material allowed to be left on NFSL shall require a plan to address erosion control, slope stability, revegetation, and compliance with visual quality objectives, water quality BMPs, and “Aquatic Conservation Strategy” objectives within the Northwest Forest Planning area.

Specific Spoil Disposal Requirements:

Spoil Pile site #4P (at Pit 4 powerhouse):

This is the only site located on NFSL currently considered for disposal of project related native materials (dirt, rocks, vegetation, not asphalt or other non-native wastes).

1. Develop a stabilization/rehabilitation plan for the site incorporating future placement of roads spoils from project roads, site leveling, slope revegetation, and other erosion prevention measures.
2. Submit a pit plan to show the current site (after above work considered) and calculations showing the amount of material the site could hold for future spoils placement. Include a final pit plan including reclamation that shall also be submitted to Shasta County for compliance with Surface Mining and Reclamation Act (SMARA) regulations.
3. Additional visual mitigations may be necessary if this site is additionally used as a vista point for the public.

c. Biological Monitoring and Adaptive Management Plan Component Details:

Fish and Benthic Macroinvertebrate Monitoring of Reaches and Reservoirs

The monitoring plans shall attempt to standardize sampling protocol to ensure comparability of results. Sampling shall occur at least once every three years during the first decade after license issuance and then at least once every five years thereafter. Methods used by the Licensee's contractors during the summer of 2002 shall be refined and standardized as the offered methodologies.

A draft technical report shall be prepared following completion of each sampling effort. In addition to describing the results, the report is to compare results with those of previous surveys. The fish-based sampling shall discuss implications regarding trends in fish abundances, trends for entrained FS special status fish species, changes to bald eagle prey species, and any indication that bass are moving into project reaches. The benthic macroinvertebrate sampling report shall discuss any changes over time regarding the composition of functional feeding groups, overall population heterogeneity and robustness, and pollution tolerance/intolerance trends.

Amphibian & Reptile Monitoring Plan

The Plan shall include at a minimum, the following components:

1. Develop the elements of a protocol to monitor changes in foothill yellow-legged frog (*Rana boylei*) use of the Pit 4 reach, as well as distribution or presence of Cascades Frogs and/or foothill yellow legged frogs (FYLF) in the Pit 3 reach. Specifically:
 - For the first 5 years, monitoring shall occur periodically throughout the spring and summer of each year to determine the presence and life stage development of FYLF.
 - Conduct a more thorough search during the spring breeding season to identify population centers / breeding sites (other than Deep Creek) and count numbers of clutches found.
 - Determine whether changes in instream flows result in breeding in newly inundated margins, or utilization of old sites that are now deeper.

- Assess whether the new breeding sites: 1) connect with the summer lower flow channel; 2) remain as disconnected off channel water bodies; or 3) dry up entirely.
 - Schedule return visits to breeding sites and adjacent low flow areas that may be tadpole rearing habitat to assess survival of tadpoles to metamorphosis. Beginning after hatching of larvae, revisit a subset of breeding sites every 3 weeks to determine survival and time of metamorphosis. To ensure comparability of density estimates, time and area constrained searches shall be used. This monitoring data will also be relevant to determining timing of young of the year population metamorphosis (full tail reabsorption).
 - Determine water-quality effects on tadpoles. To determine whether the high tadpole mortality observed in 2002 was due to a water quality factor, predator-free tadpole enclosures shall be established at relatively remote sites (unlikely to be found by anglers) to monitor survival.
 - Monitor water temperatures as previously required in the “Water Quality Plan” license condition above; FYLF water temperature monitoring to occur annually March through May for 5 years starting in 2003, or upon issuance of a new license. Monitoring is for the purpose of determining at what temperatures breeding initiates and terminates. This information shall be developed into a predictive tool in future years to avoid untimely spills or flow fluctuations that could detrimentally affect FYLF recruitment.
 - Include the component under “Vegetation Management Plan” for removal of overhead canopy.
2. The Licensee shall following Forest Service approval, file with the Commission and implement a monitoring plan for western pond turtle (*Clemys marmorata*). Population trends of western pond turtles can be assessed by developing a size class distribution of the extant population.

Wildlife Mitigation and Monitoring Plan

The wildlife mitigation and monitoring plan is to include as a minimum:

- Population monitoring of bank swallow colonies around Lake Britton every 5 years.
- Annual monitoring of Peregrine falcon nest territories, or until such time it’s determined that the study can cease.
- Construct a bat ”friendly” gate at the tunnel entrance below Pit 4 reservoir.
- Continue the speed restriction zone at Upper Lake Britton, west of the gasline crossing where it currently exists.
- If goshawks are found during pre-disturbance surveys, limit operating periods around the active nest site (200 acres) until the young have fledged.
- Protect known sites of survey and manage molluscs (categories A, D, and E).

Protection of Threatened, Endangered, Proposed for Listing and Sensitive Species Plan

The biological evaluation shall include:

- Develop procedures to minimize adverse effects to listed species.
- Ensure project-related activities shall meet restrictions included in site management plans for listed species.
- Develop implementation and effectiveness monitoring of measures taken or employed to reduce effects to listed species.
- Monitor boating speeds to know when/if a 20% increased use trigger is reached for implementing future boating speed and time restrictions in upper Lake Britton for bald eagle forage habitat protection.

d. Vegetation Management Plan Details:

At a minimum the plan shall:

- Identify and prioritize (into high, moderate, and low priority sites) all inadequately vegetated areas to be re-vegetated or rehabilitated along with an implementation schedule.
- List the plant species to be used along with planting locations, methods, and densities (emphasis shall be given to use of native plant species, especially those with cultural importance). Emphasis shall also be given to using seed from certified weed-free sources and using seed from local sources.
- Implement Valley Elderberry Longhorned Beetle surveys in appropriate vegetation prior to implementing any ground disturbing activities.
- Address vegetation maintenance activities under existing project-associated distribution and transmission lines on NFSL including:
 - Location and identification of corridor vegetative community types, target treatment species, and target residual species,
 - Access routes, treatment of slash, methods of treatment, and noxious weeds,
 - Notification procedures and implementation schedule denoting operating season,
 - Traditional uses and gathering practices of Native Americans,
 - Other resource concerns including aquatic, terrestrial, botanical, scenery, and compliance with the NWFP Aquatic Conservation Strategy.
- Address how/if vegetation manipulation affects water quality and how it complies with water quality BMPs.
- Implement vegetation manipulation of encroaching willow, alder, and other overstory canopy vegetation in a few isolated places where FYLF are known to breed (less than an acre overall). The objective is to improve habitat conditions for foothill yellow-legged frog breeding by removing or expediting the removal of riparian vegetation which may eventually die off from inundation at increased base flows. This removal must be coordinated in advance with the California Department of Fish and Game, Fish and Wildlife Service, Forest Service, and species experts, and approved in advance by the Forest Service where removal is to occur on NFSL.

For Noxious Weed Management include:

- Inventory and mapping of new populations of noxious weeds.
- Actions/strategies to prevent and control spread of known populations or introductions of new populations, such as vehicle/equipment wash stations.
- Treatment of all new infestations (any class) and existing infestations of California class A and B rated weeds, plus select class C weeds: Klamath weed (*hypericum perforatum*) and Scotch broom (*Cytisus scoparius*).
- At specific sites where other objectives need to be met (e.g. recreational use) all classes of noxious weeds may be required to be treated.
- Monitoring of known populations of noxious weeds to evaluate the effectiveness of re-vegetation and noxious weed control measures.
- As per the “Modification of Forest Service Conditions” license condition above, the Forest Service may request that the Licensee identify and implement methods for prevention of aquatic noxious weeds. 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 noxious weeds.

e. Interagency Bald Eagle Management Plan

As a minimum the plan shall include:

- Periodic monitoring of human use patterns to discern human/bald eagle interaction conflicts.
- Monitoring of boating use upstream of Lake Britton, to determine if/when 20% increase in use occurs to trigger boating speed restrictions. See “g. Boating Access and Management” below.
- Annual monitoring of bald eagle reproduction around Lake Britton and along the Pit River to the Pit 5 powerhouse.
- Coordination of any plans for timber harvest or mining on PG&E lands within the larger Lake Britton area and along the Pit 3, 4, and 5 reaches with the Forest Service and other appropriate agencies, to reach the goals and requirements set forth in this plan.
- Coordination of woodcutting activities on PG&E lands.

f. Cultural Resources Management Plan

See Licensee Draft CRMP for details of this plan.

g. Recreation Management Plan

The Recreation Management Plan (RMP) shall include:

Recreation Facilities

Lake Britton Facilities

1. Dusty Campground - On a schedule approved by the Forest Service, Licensee shall improve the existing facility as follows:
 - a. Add picnic tables to all campsites.
 - b. Make one campsite and adjacent restroom, and lake access accessible. Construct or modify path and restroom to meet current ADA standards, while keeping the balance of the campground at a lower development level.
 - c. In consultation, as per the RMP, expand the number of campsites by up to four.
 - d. Develop a potable water source within the campground.
 - e. Continue to maintain and augment sand at the Dusty campground beach. After approval by the Forest Service, expand the beach area within the bounds of the campground.
 - f. Designate swim/beach area to separate swimming and wading, from boat beaching and mooring.
 - g. PG&E shall continue to manage and maintain Dusty campground under an operations agreement with the Forest Service to a maintenance level and standard set by the Forest Service.
 - h. Better define the parking areas for day use to help with overcrowding issues; Licensee to monitor the day-use parking and encourage compliance with any limitations; in consultation with the Forest Service, consider charging a parking fee; in coordination with the Interpretive and Education Plan, provide information to users about alternative sites for overnight camping and for day-use opportunities at the Project.
2. Jamo Boat Ramp – within two years, in order to improve access for visitors to the National Forest areas of the project, Licensee shall, in consultation with the Forest Service,
 - a. Modify the existing boat ramp to provide for an accessible boat-loading platform using designs similar to those in *Accessible ramps and boarding platforms for boaters*. Tech. Rep. 0023-2837-MTDC. Bob Beckely, 2000. This can be incorporated into the current structure.
 - b. In consultation with the Forest Service and other interested stakeholders, modify Jamo fishing platform to comply with any current ADA standards to make fishing from the pier easier for those in wheelchairs and for children. Work with agencies and other stakeholders to explore the redesign/modification of the Jamo fishing platform to accommodate a fluctuating water level.

- c. Designate parking spaces for vehicles with trailers using signs and asphalt markings. Require site host or other PG&E employees to monitor for compliance.
 - d. Provide a convenience picnic table between the restroom and the shoreline. Evaluate the use of this convenience table during high use season and, should it cause the launch ramp area to become more congested, consult with the Forest Service and interested stakeholders about repositioning or removal.
 - e. Develop a potable water source at Jamo Boat Ramp or Pines Picnic Area that can be accessed by recreationists at all times.
3. Day-Use Opportunities – Work with the Forest Service and other interested parties to enhance day-use opportunities, specifically beach day use areas, to serve the Lake Britton area. This will help mitigate existing impacts to the resources, prevent future impacts to resources, and to accommodate day-use displaced from Dusty Campground. Possible locations include: the existing Pines Picnic Area, at the North Ferry Crossing, and North Shore Campground. Any new day-use beach area shall have regularly maintained beach sand if needed, access to the shore designed to minimize erosion, restrooms on site or nearby, access by road or boat, designated parking if access is by road, trash collection, and regular monitoring by a host or Licensee employee.
 4. Maintain minimum reservoir surface elevation at Lake Britton of 2,730.5 feet (NGVD) from Memorial Day through Labor Day to minimize disruption of recreational activities during the high use season. An upper limit should be considered to avoid flooding of beach, camping, and picnicking areas for this same recreation season (See DEIS comments Page 253, paragraph 4).

Lake Britton Dispersed Areas

Within two years of license issuance, the Licensee shall:

1. Improve and maintain the road to the car-top boat launch south of the gas pipeline by grading and cindering the road and cindering the launch ramp.
2. Close the vehicle parking area (Parking area 6) on the north side of the lake, due north of (across the river from) the Hat Creek Fish Barrier and monitor the closure to ensure its success.
3. Maintain recreational access to NFSL and PG&E lands on the south side of Hat Creek. At the Fish Barrier parking area, or at an alternate location upstream of the fish barrier, construct a hardened ADA accessible path, compatible with the Recreation Opportunity Spectrum classification, for fishing access to the river.

Boating Access and Management

1. Ferry Crossing Change No Boating Buoy Line – Within one year of license issuance, in order to increase the amount of lake area open to boats, move the no boating buoy line at the Ferry Crossing to a location closer to the dam in

consultation with interested and affected agencies and in accordance with dam safety regulations. PG&E will work with interested stakeholders to recommend to Shasta County implementations of speed management zones for this newly opened area.

2. Request Change in Highway 89 Bridge “no ski” zoning – Within one year of license issuance, in consultation with interested and affected agencies and stakeholders, request that Shasta County change the current no ski zoning to a 5mph speed restriction from the Highway 89 bridge to the end of the narrow channel (The Narrows) before reaching Dusty Campground.
3. Current restrictions to continue – During the life of the new license, PG&E will not pursue any changes in Shasta County boating ordinances to the existing 5 mph speed zone on the Upper Lake Britton/Hat Creek area. Additionally PG&E will monitor high-speed motorized boating use and if there is a 20% increase in use over current levels as established during monitoring, will work with Shasta County in implementing a new boating speed limit of below 5-10 mph from dawn until 9 a.m. upstream from the Highway 89 bridge. See also “e. Interagency Bald Eagle Management Plan” above.

Recreation Monitoring Plan

1. Licensee shall complete a Recreational Use and Monitoring Plan (RMP) on Recreational Resources once every six years from license issuance. The RMP shall include but not be limited to changes in kinds of use and use patterns both on water surfaces and land, user surveys as to preferences in recreational activities, kinds and sizes of recreational vehicles including boats, preference for day use versus overnight use, and recreation user trends within the project area. The Report shall include a summary of regional and statewide trends in recreation based on available surveys and reports. Survey methods shall be reviewed and approved by the Forest Service, and other interested stakeholders prior to implementation. A copy of the survey data results shall be provided to the Forest Service and other interested stakeholders one year prior to the submittal of the Recreation Monitoring Report. The Report on Recreational Resources shall also comply with the Commission’s regulations at 18 CFR Section 8.11 (Form 80) and shall be filed with the Commission after Forest Service approval. The Forest Service reserves the right, after notice and opportunity for comment and administrative review, to require changes in the project and its operation through revision of the 4(e) conditions that require measures necessary to accomplish protection and utilization of National Forest resources identified as a result of those surveys.
2. Licensee shall, every six years (coinciding with the Commission’s recreation inspection schedule), consult with the Forest Service, appropriate agencies, and interested stakeholders to review and adjust project-wide recreation management objectives. This consultation should take the form of an in-

person meeting within reasonable distance to the project. This review shall be based on monitoring results from recreation surveys, law enforcement monitoring, and other applicable study and monitoring results. The review shall address, as a minimum, the following factors:

- Capacity; including developed and dispersed sites, roads, trails, water bodies, and river reaches
 - Kinds and condition of facilities
 - Kinds, quality, quantity, and range of opportunities
 - Health and safety
 - User and resource conflicts
3. Monitor for high-speed boating use conflicts with bald eagles in Upper Britton Beginning the season following issuance of a new license, Licensee shall monitor lake-based activities between Highway 89 Bridge and the east end of Slalom Bay between April 1 and August 1, during morning bald eagle foraging hours ending at 9 am. This work should be coordinated with other monitoring of bald eagles in the IBEMP. The first 2 years of data will be considered baseline. The survey shall continue on the same schedule as other recreation use monitoring. If the water-based motorized boating use increases by 20% over baseline, a speed limit (5 mph between dawn and 9 am until August 1 annually) shall be enacted between the Highway 89 Bridge easterly to the existing 5 mph restriction on Upper Lake Britton, if determined by the Forest Service and other applicable agencies (i.e. USFWS) to be necessary. If the speed limit is determined necessary by the Forest Service, the Licensee shall seek a Shasta County ordinance to implement the speed limit and shall work with the Shasta County Sheriff's boat patrol to post and enforce the rule.
 4. In addition to 1. above, monitor boat use numbers and activity types from Memorial Weekend through Labor Day on all areas of Lake Britton. PG&E will work with the Forest Service and other interested stakeholders to determine the methodology for the data collection including frequency and location.

Trails Management in the Lake Britton Area

PG&E will work with the Forest Service and other interested stakeholders to develop measures to maintain and upgrade existing trails within the project boundary surrounding Lake Britton.

Pit 4 Day Use Access

1. PG&E, in consultation with the Forest Service and appropriate agencies, will design and construct a Day Use Area in the vicinity of the Pit 3 powerhouse. This area should include: accessible fishing access, accessible toilet, potable water nearby, trash receptacles, and improve the parking area by grading and hardening, as per ADA standards. Licensee shall work with the Forest Service with CDF&G in this vicinity so that the Day Use Area will not conflict with the designated Wild Trout Fishery regulations.

2. Within one year of license issuance, the Licensee shall pursue a change in the Shasta County ordinance to open the Pit 4 reservoir to non-motorized boats, motorized boats with battery-powered trolling motors, and float tubes between August 1 and December 31 in consultation with the Forest Service and other appropriate agencies. Additionally, Licensee shall pursue a change in the County ordinance to reflect a 5 mph speed limit. The unimproved boat ramp currently used by Licensee shall be signed and modified to accommodate this use.

Trails and Dispersed Access in River Reaches

Pit 3 Reach

1. Construct and maintain to a standard approved by the Forest Service, three river access hiking trails at Powder Spur (serves to access NF lands), Delucci Ridge, and Rock Creek, or other locations as agreed to by the Forest Service. At each trail location, trailhead parking will be improved by leveling, barriers, and signing as approved by the Forest Service. At Powder Spur, construct trailhead parking to accommodate up to 10 vehicles at one time, on the north side of the Pit 3 road across from the Powder Spur trail. All trail locations and designs shall address erosion control needs.
2. Improve parking at the Talus Siren by removing road debris piles on the south side of the road.

Pit 4 Reach

1. Construct and maintain to a standard approved by the Forest Service, two river access hiking trails at Malinda Gulch and Oak Flat or other locations as agreed to and approved by the Forest Service. In order to reduce resource impacts at each trail location, trailhead parking shall be improved by leveling, barriers, and signing as approved by the Forest Service and in a manner appropriate to a lower Recreation Opportunity Spectrum. Trail design shall address erosion control needs.
2. Pile #4D - Spoil Pile restoration. Develop a site plan for Forest Service approval to convert the existing 240,000 cubic yard spoil pile covering 3.35 acres on NFSL into a canyon scenic overlook. Site plan shall include:
 - i. Removal of all non-native materials visible on the surface of this pile.
 - ii. Stabilizing and erosion control to prevent further erosion into the active river channel and avoid further collapse of southern canyon wall.
 - iii. Revegetation with native plants, and reduction of star thistle invasion.
 - iv. Cease any further use of this site as a disposal site.
 - v. Submit a sampling plan for 5 years of testing at annual intervals to ensure there are no longer hazardous materials in the piles that are leaching into the ecosystem, unless completed tests can conclusively demonstrate that there are no hazardous materials buried in the piles. If hazardous materials are later discovered in the pile, the Forest

Service reserves the right to require PG&E to clean up or totally remove this pile.

3. Provide a trash collection location at the Pit 4 powerhouse for recreationists.
4. Provide a potable water source available to recreationists in the Pit 4 reach, possibly at the Pit 4 powerhouse.

Dispersed Camping Areas

Ruling Creek Dispersed Camping Area: Develop and implement a site improvement plan consistent with the Recreation Opportunity Spectrum (ROS) setting for approval by the Forest Service including:

- Provide amenities commensurate with the ROS, including installing and maintaining a portable, vault-style toilet (such as a CXT toilet).
- Remove road debris piles
- Implement noxious weed mitigations as coordinated with the vegetation and noxious weed management plan
- Realignment of road away from river
- Eliminate use of site as spoil pile disposal area
- Address existing 40,000 cubic yards of tunnel spoil material and incorporate, where feasible into site plan
- Address erosion control needs associated with spoil pile disposal in this area and adjacent river (coordinate with spoil pile management plan)
- Address riverbank erosion associated with old roadbed (coordinate with spoil pile management plan)

General Dispersed Camping on FNSL in the Pit 3 and Pit 4 reaches: In areas accessed by project facilities or affected by the project, PG&E, in consultation with the Forest Service, will include in the Recreation Management Plan a section addressing general dispersed areas. This section should specifically speak to opportunities and problems unique to the Pit reaches such as fire prevention, sanitation, parking, “site creep”, crowding, and stay limits.

Interpretation and Education Plan

Within two years of license issuance, the Licensee, in consultation with the Forest Service and appropriate agencies and interested parties, shall complete an Interpretive, Education, and Public Information Plan (I & E Plan) that shall be approved by the Forest Service and filed with the Commission. At a minimum, the plan shall include themes, design, audience, delivery methods, and schedule for implementation. Specific projects include:

- Informational kiosks at 5 Corners, Pit 3 powerhouse, Big Bend Interagency Fire Station, Jamo Boat Ramp, or other locations, as agreed.

- Interpretive or orientation signs at Hwy 299 and the Red Cinder Road, Hwy 299 and Sand Pit Road, Pit 3 dam, Big Bend road and Pit 5 Powerhouse Road, 5 Corners or other locations as agreed.
- Brochures of various topics.
- Informational website.

Whitewater Boating Access

Within one year of license issuance, the Licensee shall develop, in consultation with the Forest Service and other appropriate agencies and communities and file with the Commission, a plan for whitewater boating including the following components:

- 1) Flow phone installation: Provide flow information via the web (Internet) and telephone for the Pit 3, and 4 reaches. Web information would include real time flow data for the past 7 days. In dry years, the schedule of the dry year freshet flow releases (including ramping rate) would be provided, so that boaters could plan their trip accordingly. Web information shall be made available to, and posted on, PG&E and American Whitewater websites, with links to other pertinent websites. Phone information would provide the peak flow for the past three days which occurred between 8:00 am and 6:00 pm, as well as any forecasted dry year freshet flow releases. Real time flow data and peak flow data shall be made available year round.

The acceptable boating flow range is estimated to be between 1,100 and 3,000 cfs in the Pit 4 reach, and is unknown at this time in the Pit 3 reach. The “Freshet Flow” component of the “Flow Regime for Affected NFSL” license condition will provide 10 continuous days of acceptable boating flows between 1,500 and 1,100 cfs during the first part of March in years when it is released. These flow releases will occur if there have been no spills equal to or greater than 1,500 cfs for one year preceding March 1 of each year, and if water temperatures meet the criteria related to protection of foothill yellow-legged frogs. It is estimated that these dry year freshet releases will occur in 10-30% of the years. In most (but not all) other years, there will be naturally occurring spill flows in the river which would meet or exceed whitewater boating flows for variable numbers of days. See Enclosure 1, “Flow Regime for Affected NFSL” for a full description of this license condition.

- 2) Whitewater boating access points shall be developed coordination with agencies and other interested stakeholders. A minimum of two sites per reach will be developed, an upper reach “put in” and a lower reach “take out”. Mitigations for potential whitewater boating/archaeological site conflicts shall be addressed in the Cultural Resource Management Plan.

h. Roads and Facilities Management Plan

Road planning at a minimum shall include:

1. Include a map showing all roads, both Forest Service system roads (classified), and Forest Service unclassified roads associated with this project. Included in the map shall be the location of road watering sources, and all disposal sites for surplus material, i.e. rocks, brush, additional spoil pile material etc.
2. The roads and facilities management plan shall incorporate FS standards (i.e. FS manuals and handbooks) for design, construction, operation and maintenance.
3. An annual schedule for implementation of specific measures to rehabilitate and maintain existing roads.
4. Identify the uses (i.e. recreation, facility access) of the roads, and season of operation.
5. Inventory the condition of the roads including any construction or maintenance needs. The Forest Service has available documentation forms for road condition inventory, stream crossing information, and fish passage that can be linked to Road Analysis indicators utilized by the Forest Service. Information shall include length and width of road, location and size of culverts, grade, slope position, hydrologic connectivity, surfacing, maintenance level, service level, and jurisdiction sufficient for the Forest Service to conduct a Road Analysis Plan (RAP) to close roads, to create new roads, or recommend upgrading the condition of the road.
6. Include updates of all existing Forest Service road special use authorizations, and identify responsibilities and schedule of road maintenance activities. Updating of special use permits can take place separately from relicensing, but should be based on and refer to road management plans resulting from relicensing.
7. Include a map of a Traffic safety and Signage plan, for all roads within the project area. Include both safety and destination/distance information signs at major road intersections and features. An inventory of all signs together with photographs of each sign shall be included. Mapping shall be completed using global positioning system (gps) instrumentation and made available as a digital format layer. Signs shall conform to Forest Service Manual direction.
8. Include a map of all drainage crossings of bridges and culverts. Provide hydraulic calculations verifying that all intermittent and perennial stream crossings shall accommodate a 100 year storm event and associated bedload and debris, and allow fish passage through all culverts that are identified as fish habitat areas. The Licensee shall develop a plan for Forest Service approval to upgrade those culverts not meeting this standard. Priority for upgrading will be based on the potential impact to the ecological value of the riparian resources effected. The Licensee shall construct, operate, and maintain Project facilities, including roads, parking and storage lots, reservoir shorelines, bridges, and culverts to maintain natural fluvial and colluvial sediment transport to the Project reaches, as far as feasible. The Licensee shall notify the Forest Service in writing within 10 days of identifying any natural or human-induced landslide activity potentially contributing sediment directly to the Pit River channel or canyon floor in amounts

exceeding approximately 30,000 tons, or approximately ten percent of the average annual sediment supply to the Project reaches, as determined by R2 Resource Consultants, Inc. (2002).

9. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

Off-Highway Vehicle (OHV) and Vehicle Management Plan

The area identified for planning is for the project area and adjacent agency lands bounded by Lake Britton on the north, Highway 299 on the south, and Highway 89 on the west. The plan shall address the following:

- Identify where existing use patterns are creating resource damage, including archaeological site disturbance.
- Restrictions/controls for protection of bald eagles, cultural resources, upland oak and riparian habitats, and other resources affected by vehicle use.
- Time frames of seasonal road closures.
- Rehabilitation needs for areas already disturbed by this activity.
- Specifically address the Hat Creek Fishing barrier area where resource disturbance is occurring on PG&E Project lands and adjacent National Forest System lands, and any permanent road closures.

Traffic Use Surveys

At a minimum the road/traffic survey shall:

- Include the installation of traffic counters at the following locations: Pit 3 Reach Road (existing counter above the Pit 3 dam), hydrologic gaging station in Pit 4 reach, north side of the Pit 5 dam, Dusty Campground, and North Shore Campground access roads.
- Include the number of vehicles per day, type of vehicle, i.e. log trucks, recreational vehicles, passenger cars, emergency vehicles (fire), PG&E vehicles etc.
- Traffic counts shall be conducted for: opening of fishing season, Memorial weekend, July 4th holiday weekend, Labor Day weekend, and random weekends, and weekdays during the period from April to October. A minimum of 60 survey days/year shall be required. The surveys will be repeated on a six year schedule to provide trend data over the license period.

Project Road Rehabilitation

The objective of this plan is to take appropriate measures to rehabilitate and maintain existing project roads to provide for current public use levels and safety, to protect road facilities from failure, and to reduce existing resource degradation resulting from improperly maintained roads on National Forest System lands. The rehabilitation items below shall be accomplished within 3 years of license issuance, or as otherwise specified, with the most urgent safety concerns, as determined by the Forest Service, to take priority.

General road rehabilitation needs:

1. All gates and signing used for road closures (seasonal and permanent) shall be as specified in the “Manual of Uniform Traffic Control Devices” (latest edition) and Sign and Poster Guidelines for the Forest Service (EM-7100-15).
2. For construction projects or other ground disturbing activities, implement a vehicle/equipment wash station, in an approved location, to prevent introduction of noxious weed species to the disturbed site.
3. Implement Forest Service “Best Management Practices – Water Quality Management for Forest System Lands in California” for all road construction/maintenance activities.
4. Inspect all bridges in accordance with State and Federal Regulations, every four years. Provide inspection reports on each site to the Forest Service when completed.
5. Gates or other vehicle control measures shall be installed where necessary to achieve erosion protection.
6. Complete normal maintenance activities on an annual basis including: repair/replace damaged culverts identified in road logs, remove existing vegetation to allow adequate sight distances, replace faded signs and object markers as per sign plan.
7. Every ten years of the license period, the Licensee, in consultation with the Forest Service and other appropriate agencies, shall review traffic and recreation use surveys for campground access roads. The Forest Service will use this information in a Roads Analysis Process (RAP) to determine if management objectives have changed, for the area or for the roads serving the area.
8. Sign project roads and related recreational access points and facilities to assist non-local recreationists in locating destinations and project waters.

Specific road rehabilitation needs:

Pit 3 Reach Road - 37N60Y

Reconstruct road to meet Forest Service road standards consistent with “Road Management Objectives”, including new pavement-where needed, reconstruct road to designated width with shoulders, install additional paved turnouts to meet FS standards, reconstruct sharp curves to meet standards, and stabilizing banks where needed.

Bridges: Rock Creek, Screwdriver Creek, Underground Creek

- Replace or reconstruct all bridges to conform to AASHTO Standard Specifications for Highway Bridges (latest edition), including guardrails.
- Paint steel girder substructure (Rock and Screwdriver Creeks).
- Provide hydrology information to verify 100-year storm and associated debris “accommodated” at the crossing, per SAT guidelines.
- Perform engineering calculations for inventory and overload loadings on all bridges, and provide it to the Forest Service.
- Pave bridge approaches 50 feet either side.
- Any other necessary improvements to meet road standards.

River Road (USFS#50-within NFSL)

- Expand existing paved road from the Pit 3 Powerhouse (M.P. 5.8) to the Gravel Bar turn-off in the Pit 4 reach (M.P. 8.8).
- Install culverts at specified spring locations to provide direct drainage into the Pit River (minimum of 5 sites).
- Repair existing or install new crib walls, stabilize eroding cut and fill slopes, and take other measures, as needed to meet road standards.
- Repair existing road surface being held in place by a rotting log berm about ¼ mile east of the Pit 4 powerhouse, if not done so before relicensing.
- Install concrete ford, or other appropriate measures through drainage approximately ¼ mile west of Underground Creek.
- Replace existing logs parking barriers with metal guardrails at Pit 4 Dam.

River Road – Spur A (Pit 4 Dam Spoils Pile to Pit River)

- Review access needs to river, and if needed, develop a plan to provide vehicle access as a component of the spoil pile restoration (see “g. Recreation Management Plan” above).

River Road – Spur B (Ruling Creek)

- Refer to “g. Recreation Management Plan”, above for specific road rehabilitation needs.

Rock Creek Penstock Road 37N60YA

- Past work has been successful at some springs at get water off the road. Continue this practice at couple remaining springs, and other measures as might be necessary to meet FS road standards.

Pit 4 Valve House Road

- See “b. Spoil Pile Management Plan” above for details.

Dusty Campground Road – 37N59Y

- Install signs on highway approach, advising recreational visitors that “trailers are not recommended”.
- Construct additional turnouts along the existing road to meet road standards.

North Shore Campground Road

- Install a new/larger entrance sign for the campground, and stop sign at intersection of campground and Clark Creek Road.

i. Fire Management and Response Plan

At a minimum, the this plan shall address:

- Availability of fire access roads, community road escape routes, helispots to allow aerial firefighting assistance in the steep canyon, water drafting sites in the river that meet resource concerns, and other pre-fire suppression strategies.
- Identify fire hazard reduction measures (e.g., eliminating ladder fuels, reducing fuel loading, clearing around fire rings and dispersed camping areas, thinning & slash treatment 50' on either side of designated and developed trails, fuelbreaks, etc.) to prevent the escape of project-induced fires.
- Analyze fire prevention needs to ensure that prevention equipment and personnel are available, including Project patrols and availability of law enforcement. Provide the Forest Service a list of the location of available fire-prevention equipment and the location and availability of fire-prevention personnel.
- Develop fire prevention restrictions based on fire danger, that are consistent with adjacent public land ownership for project-induced recreation on PG&E lands. Implement these measures through signage and patrols, as necessary.
- Address fire danger associated with dispersed camping and recreation sites on PG&E lands that could escape onto NFSL, such as campfires, cooking stoves, roads into areas with roadside vegetation and slash.
- Address fire danger associated with developed recreation facilities and prior to the construction of any new facilities.
- Develop public awareness such as signs and brochures to educate the public about fire danger and safety.
- See Vegetation Management Plan condition for related measures and to assure fire prevention measures will meet water quality BMPs.

j. Visual Management Plan

At a minimum, the Plan shall address:

- Clearings, spoil piles, and project facilities such as diversion structures, penstocks, pipes, ditches, powerhouses, other buildings, transmission lines, corridors, and access roads.
- Facility configurations, alignments, 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.

Mitigation measures shall include, but are not limited to:

- Surface treatments with colors and materials that are in harmony with the surrounding landscape.
- Use of native plant species to screen facilities from view, where appropriate.
- Reshaping and revegetating disturbed areas to blend with surrounding scenic characteristics.
- Development of scenic overlooks along scenic routes.
- Removal of project induced debris piles which detract from the visual quality.
- General maintenance and upkeep of facilities.