

PIT RIVER PLANNING UNIT

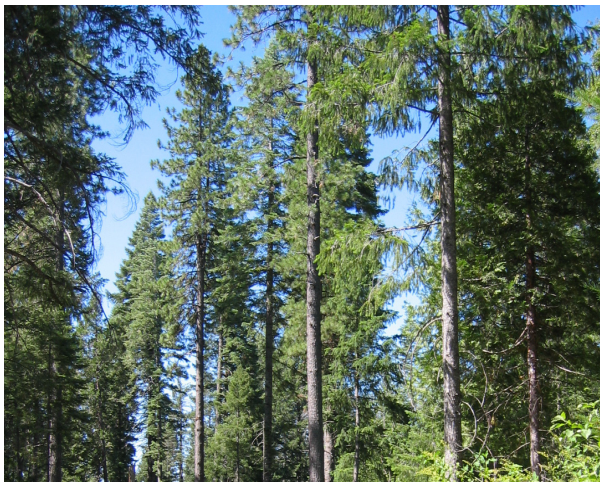
Pit-McCloud River Watershed

Existing Conditions & Uses

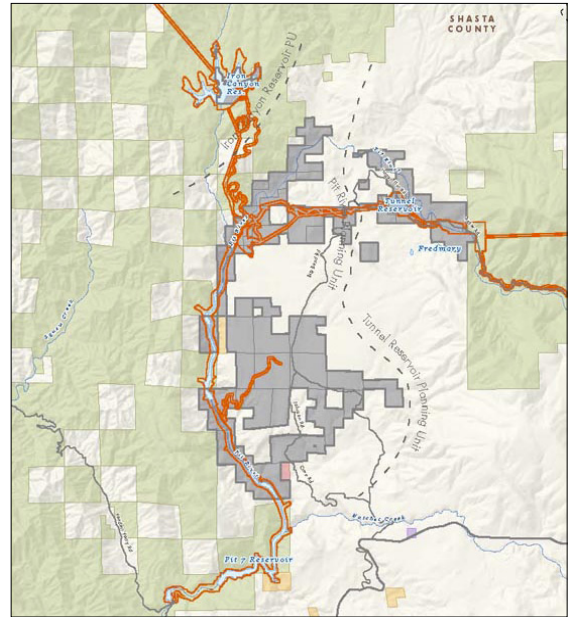
Overview

- Large, heavily forested area along the Pit River with valuable timber and biological resources
- 12,393 acres in Shasta County; 11,294 acres outside FERC boundaries and 1,099 acres inside FERC boundaries
- Part of the Pit 3, 4, 5 Project (FERC #233), New License issued July 2007, as well as the McCloud-Pit Project (FERC #2106) currently undergoing relicensing (License expires in 2011)

The Pit River Planning Unit is one of the largest planning units in terms of land acreage. The planning unit is located in Shasta County near the community of Big Bend (see Figure PM-13). The planning unit contains lands that are part of the Pit 3, 4, 5 FERC Project (#233) and the McCloud-Pit FERC Project (#2106). Lands that are part of the Pit 3, 4, 5 Project include those along the Pit River from Kosk Creek to the Pit 5 Powerhouse (4.4 miles). This section of the Pit River is part of the Pit 5 bypass reach because water is diverted at the Pit 5 Dam through the Pit 5 Tunnel (in the Tunnel Reservoir Planning



Forest canopy



Rit River Planning Unit
Shasta County

Unit) into the Pit 5 Powerhouse. Hydropower infrastructure within the Pit 3, 4, 5 Project area includes the Pit 5 Tunnel and Pit 5 Powerhouse.

Lands associated with the McCloud-Pit Project include those along the Pit River from the James B. Black Powerhouse (located just upstream of the Pit 5 Powerhouse) south past the Pit 6 Reservoir to the beginning of the Pit 7 Reservoir. Hydropower infrastructure within the McCloud-Pit Project area includes the James B. Black Powerhouse, Pit 6 Dam, and Pit 6 Powerhouse. The planning unit is surrounded by private and industrial forest lands to the east and checkerboard USFS lands (Shasta-Trinity National Forest) to the west.

Many of the lands, especially along the Pit River, are very steep except for an area east of the Pit 6 Powerhouse called the Flatwoods. The Flatwoods area is not associated with a FERC Project. PG&E was issued a New License for the Pit 3, 4, 5 Project on July 2, 2007. The McCloud-Pit FERC Project is currently undergoing relicensing. There is one lease in the planning unit for a mini power plant and associated power transmission facilities.



Pit River Planning Unit Existing Conditions

- PG&E Lands Preliminarily Designated for Retention
 - PG&E Lands Preliminarily Designated for Disposition
 - BIA
 - BLM
 - BOR
 - DOD
 - NPS
 - Other/NGO
 - State
 - USFS
 - Federal Wilderness
 - Boat Launch
 - Campground
 - Dam
 - Day Use
 - Feature of Importance
 - Fishing
 - Fish Barrier Dam
 - Gate
 - Lodging
 - Non-Motorized Boating
 - Parking
 - Powerhouse
 - Private Camp
 - Ranch
 - Trailhead
 - Whitewater Put-In/Take-Out
 - FERC Boundary
 - Stream / River
 - Canal / Ditch
 - Pipeline
 - Highly Valued Stream
 - Primary Roads
 - Secondary Roads
 - OHV Roads
 - Trail
- All symbols may not appear on the map

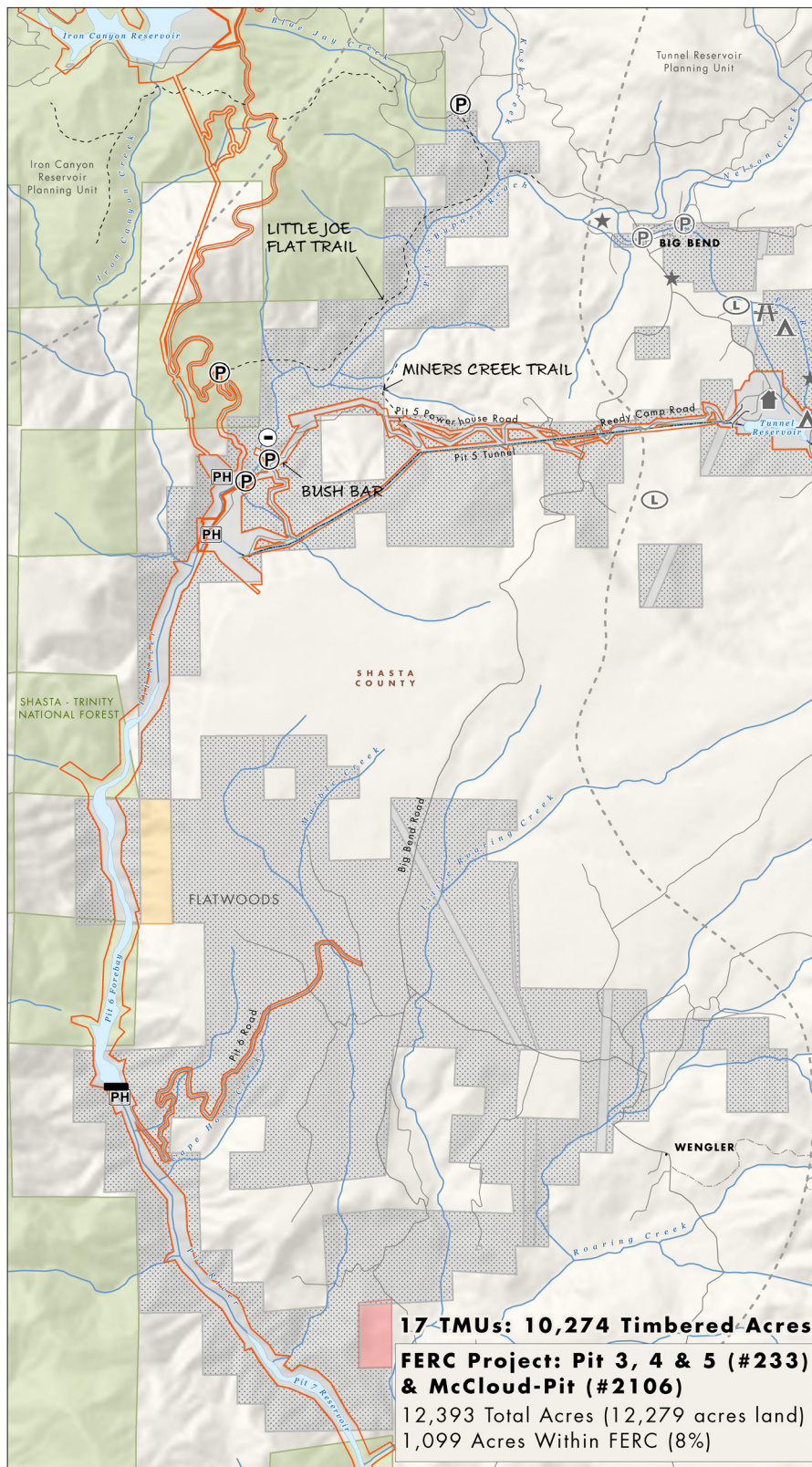
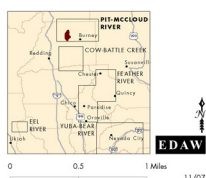


Figure PM-13

PIT RIVER PLANNING UNIT

Pit-McCloud River Watershed

Fish, Plant, and Wildlife Habitat

There are extensive terrestrial and aquatic resources within this planning unit. The ten-mile long, 268-surface-acre Pit 6 Reservoir provides habitat for fish species such as Sacramento sucker, tule perch, Sacramento pikeminnow, tui chub, smallmouth bass, rainbow trout, and hardhead. This reservoir is very steep-sided with limited shoreline habitat. Similar fish species can be found in the Pit River.

The Pit 5 bypass reach provides a substantial native rainbow trout fishery, and Kosk Creek in the northern portion of the planning unit provides spawning and rearing habitat for trout. Species composition and habitat available within other creeks throughout the rest of the planning unit are unknown. Currently, there is no stocking of the Pit River or Pit 6 Reservoir. Several special status aquatic species were found within the Pit 5 bypass reach during relicensing studies for the Pit 3, 4, 5 Project including four aquatic gastropods and northwestern pond turtles. McCloud-Pit Project relicensing will study fish species and the Pit 3, 4, 5 New License requires several aquatic habitat measures.¹

Terrestrial resources within the planning unit provide nesting and foraging habitat for a pair of bald eagles along the Pit 5 bypass reach. The Pit 6 bald eagle breeding territory has been unused for the last six years. The presence of avian and other terrestrial species within the rest of the planning unit is unknown. The planning unit is within critical deer winter range and the USFWS-designated northern spotted owl habitat area. No special status plants were found within the Pit 3, 4, 5 Project area along the Pit 5 bypass reach; however, three special status plants have been identified along the Pit 5 Powerhouse Road and near the Pit 6 Reservoir and Cape Horn Creek. Presence of special status plants within the Flatwoods area is unknown, although occurrences of special status plants have been mapped adjacent to these parcels.

Several noxious weeds such as spotted knapweed, yellow starthistle, Klamathweed, and bouncing

bet, have been found in the Pit 3, 4, 5 Project area within the planning unit² along with many spoil piles. Several terrestrial resource-related measures are required in the Pit 3, 4, 5 Project New License.³ Proposed relicensing studies for the McCloud-Pit Project will survey for special status species, classify and map vegetation community types, and map and assess noxious weeds.

Open Space

Due to a lack of development, steepness of the Pit River Canyon, and primary use of the planning unit for timber production, open space values can be found throughout the planning unit. The Shasta County General Plan recognizes that rivers, creeks and associated riparian corridors, and floodplains within the county are major open space resources. Lands within the planning unit also provide a scenic viewshed for the Big Bend Road, an important local thoroughfare.

Outdoor Recreation

There is very little existing recreational use and few recreational facilities in this planning unit. Most of the existing recreation use occurs in the Pit 5 bypass reach area. The Pit 5 bypass reach is accessible by trail only and also provides fishing and whitewater boating opportunities. The Shasta-Trinity National Forest-designated Little



Logging road

PIT RIVER PLANNING UNIT

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James B. Black Powerhouse

Joe Flat Trail is the main trail in the planning unit along the Pit 5 bypass reach, running 2.8 miles from James B. Black Powerhouse to Blue Jay Creek. The trail provides opportunities for wildlife viewing and fishing access along with equestrian, mountain biking, and hiking opportunities and currently receives little use.

There are also trails in the Bush Bar area and along Miners Creek that are mostly used by anglers. Both the Bush Bar and James B. Black Powerhouse informal recreation areas are accessible by vehicle; however, the Pit 5 Powerhouse area is closed to public access for safety reasons. The Pit River is very popular for fishing with over 90% of visitors to the Pit River Canyon reporting fishing as their primary activity as stated in the Pit 3, 4, 5 Project License Application.

Whitewater boating opportunities (Class IV/V) are also available on the Pit 5 bypass reach. The put-in for the reach is located just west of the Pit 5 Dam (in the Tunnel Reservoir Planning Unit) and the take-out is at Bush Bar. The Bush Bar site will be improved as part of the FERC license required recreation management plan under the Pit 3, 4, 5 Project New License.⁴ Study of whitewater flows in the Pit 5 bypass reach is also required in the New License, along with several other recreation-related measures.⁵

Several studies for the McCloud-Pit Project regarding recreation are proposed in relicensing.⁶ Currently, there is minimal boating use on the

Pit 6 Reservoir due to safety reasons and limited access. Dispersed use, mainly hunting, is the primary recreation use within the Flatwoods area.

Forest Resources

The entire planning unit is heavily forested. Black oak forest is common on the west side of the Pit River with Sierra mixed conifer forest common on the east side. Some of the Flatwoods area is mixed conifer forest, and part of the area resembles westside ponderosa pine forest that is dominated by ponderosa pine and Douglas-fir and, to a lesser degree, incense-cedar.⁷ There are some plantations within the area, primarily in the Flatwoods. Currently, the planning unit contains 17 PG&E Timber Management Units (TMUs), totaling 10,274 timbered acres, almost 20% of all of PG&E's timberlands. Fourteen of the TMUs are currently managed by PG&E for sustainable timber production. The remaining three TMUs currently have no timber management and are generally located along the Pit River from the Pit 5 Powerhouse area south to the beginning of the Pit 7 Reservoir. The planning unit has highly productive soils for timber and has been referred to as some of the best timber in Shasta County.

Harvesting is proposed by PG&E for the Bush Bar and Pit 5 Powerhouse areas to reduce fire hazards and remove diseased trees. Part of this area was last harvested in the 1970s and the Pit 5 Powerhouse area has never been harvested.



Forested ridgeline

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Regarding fire history within the Pit 3, 4, 5 Project area, 28% of small fires were recorded in the Pit 5 bypass reach, generally more frequently around Big Bend and along highways and less frequently in recreation areas and within the Pit River Canyon. Fire history within the Flatwoods and Pit River area downstream of the Pit 5 Powerhouse is unknown. A fire management and response plan is required in the Pit 3, 4, 5 Project New License.

Agricultural Uses

Grazing does not occur within the planning unit and there is low potential for grazing due to a lack of forage. Grazing was eliminated in the Pit 3, 4, 5 Project area in the late 1980s to protect sensitive resources and water quality. In the Final EIS for the Pit 3, 4, 5 Project, FERC commented that grazing should not be reinstated.

Historic Resources

The Pit River Planning Unit is located within the ancestral territory of the Pit River Tribe. Relicensing studies documented 47 sites within the Pit 3, 4, 5 Project cultural resource study area consisting of shell middens, lithic scatters, housepits, cairns and historic residential camps, fences, construction camps, road, rock alignment, debris, and the foundation of the Bush Bar School (which has been moved to a new location in Big Bend). Ethnographic studies documented about 100 ethnographic locations within the cultural resource study area. In relicensing, the Pit 3, 4, 5 Hydroelectric System was determined to be eligible for listing in the NRHP as an historic district. Some system components within the planning unit are also individually eligible for inclusion on the NRHP, including the Pit 5 Powerhouse.

Ethnobotanical resources have been identified in the Pit 3, 4, 5 Project area such as hazel and redbud, which are of special importance to Native Americans for art, medicine, basketry, and cultural use. Some cultural sites have been vandalized within the planning unit. In an effort



Recently logged area

to protect valuable cultural resources, a final historic properties management plan (HPMP), including monitoring and protection measures for sites is required in the Pit 3, 4, 5 Project New License.

Little is known about the cultural constituents and early settlement of the McCloud-Pit FERC Project area, with less than 40% of the total McCloud-Pit Project cultural resource study area (currently all lands within the FERC boundary) having undergone some cultural resource identification effort in the past. Previous identification efforts have yielded 74 sites within or adjacent to the study area. Many of the previous surveys are more than 10 years old and do not meet current standards. Two relicensing studies are proposed that would survey and assess archaeological and historic-era properties as well as identify and document traditional cultural properties.⁸ There is no cultural resource information available for the Flatwoods area.

Stewardship Council Recommendations

The Stewardship Council recommends that the land and land uses at the Pit River Planning Unit be preserved and enhanced by focusing on sustainable forestry, biological and cultural resource protection, and monitoring of recreation use. In presenting the Recommended Concept

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provided here, our objective is to preserve and enhance habitat and cultural resources while also protecting and preserving important forest resources. We recommend this effort be conducted in close coordination with PG&E and the two current FERC relicensing efforts for the area.

Objective: Preserve and enhance biological and cultural resources and enhance sustainable forestry management.

As shown on Table PM-7, the Stewardship Council has identified a number of preservation and/or enhancement measures that may contribute to the conservation management program for the Pit River Planning Unit. Additional detail and background regarding these potential measures can be found in the Supporting Analysis for Recommendations, provided under separate cover. These measures are intended to be illustrative in nature, not prescriptive, and will be amended, deleted, or augmented over time in coordination with future land owners and managers to best meet the objective for this planning unit.

Fish, Plant, and Wildlife Habitat

Objective: Preserve and enhance habitat in order to protect special biological resources.

The Pit River Planning Unit offers diverse and high value terrestrial and aquatic habitat within its forestlands and along the Pit River. In order to preserve and enhance the habitat and resources found here, the Stewardship Council recommends that baseline studies and plans be developed to gain a clear understanding of the resources (particularly outside the FERC boundaries where little information is currently available or will be provided by relicensing studies). These studies will likely be followed by management plans to ensure implementation of preservation and enhancement measures for specific resources. Management of the

property to preserve and enhance habitat will also include addressing noxious weeds and abiding by the USFWS Biological Opinion for the Pit 3, 4, 5 Project where applicable outside the FERC boundary. An evaluation of trails in the Pit 5 bypass reach for erosion impacts and potential restoration opportunities is also recommended. We encourage close coordination with the USFS, USFWS, and other resource-focused organizations working in the region. All planning should be considered in conjunction with the fuels and forest management plans, as well as relevant FERC license required plans.

Open Space

Objective: Preserve open space in order to protect natural and cultural resources and the recreation setting.

This concept would preserve open space by limiting new construction to interpretive signage, as well as through permanent conservation easements. Conservation easements would describe all prohibited uses to maintain open space values, including the level of uses allowed, and the requirement to maintain scenic qualities.



Deerbrush community with mixed conifers

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Pit-McCloud River Watershed

Outdoor Recreation

Objective: Enhance recreational facilities in order to provide appropriate recreation management and enhance the recreation experience.

Recreation within the planning unit is limited to trail, fishing, and whitewater boating opportunities in a semi-primitive forested setting. Various recreation enhancements are required in the Pit 3, 4, 5 Project New License and additional enhancements could be proposed in the future as part of McCloud-Pit Project relicensing efforts. As shown in Figure PM-14, the Stewardship Council looks to enhance recreational opportunities by recommending additional directional signage and monitoring of recreation use at Bush Bar if both measures are not included in relevant FERC license required plans. These measures would enhance the recreation experience and ensure appropriate recreation management and facilities are provided at the Bush Bar area.

Sustainable Forestry

Objective: Develop and implement forestry practices in order to contribute to a sustainable forest, preserve and enhance habitat, as well as to ensure appropriate fuel load management.

The Pit River Planning Unit is heavily forested with more than 10,000 acres of timber, reputed to be among the best timber in Shasta County. The Stewardship Council recommends that future care and management of the property include developing a long-term vision for forest management, addressing silvicultural practices, holistic watershed management, plantation management, and fuels management. The fuels and forest management plans should be developed in conjunction with the noxious weed and wildlife and habitat management plans, as well as relevant FERC license required plans. We expect that all of these plans would be developed



View across Pit River Canyon in coordination with adjacent landowners and USFS management and practices as appropriate.

Preservation of Historic Values

Objective: Identify and manage cultural resources in order to ensure their protection.

A variety of prehistoric, historic, and ethnographic cultural resources have been found within the Pit River Planning Unit, and more potentially exist, but have yet to be identified. The Stewardship Council aims to support an increased understanding of these resources and ensure they are appropriately protected. To meet this objective, we recommend that cultural studies be conducted to understand the resources found in the Pit River Planning Unit (particularly outside the FERC Project cultural resource study areas where less information is available or will be provided by relicensing studies). We also recommend that appropriate management plans be developed and implemented. Throughout this effort, the Stewardship Council recommends close coordination with Native American entities. Development of the cultural resources management plan should be consistent with relevant FERC license required plans.

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Pit-McCloud River Watershed

Endnotes

¹ Aquatic resource-related measures in the New License for the Pit 3, 4, 5 Project include: a gravel management plan, a large woody debris management plan, a western pond turtle management plan, and fish population trend and condition monitoring in project river reaches. A proposed relicensing study for the McCloud-Pit Project will characterize fish populations within the project reservoirs (including the Pit 6 Reservoir) and project-affected stream reaches to provide a better understanding of the fish communities present.

² Noxious weeds were identified in relicensing for the Pit 3, 4, 5 Project. Large areas of noxious weeds were found near the bald eagle nesting area at Little Joe Flat, and several infestations were documented along the Pit 5 Powerhouse Road. Noxious weed information for the rest of the planning unit is not available.

³ Terrestrial resource-related measures required in the New License for the Pit 3, 4, 5 Project include: updating the Interagency Bald Eagle Management Plan, a vegetation and invasive weed management plan, a terrestrial wildlife mitigation and monitoring plan, a Biological Resource Program Technical Review, Group a northern spotted owl protection plan, and a spoil pile management plan.

⁴ Improvements will consist of restrooms and parking.

⁵ Recreation measures required in the New License for the Pit 3, 4, 5 Project include: enhancing whitewater access locations; a sign plan; a visual management plan; a road and facility management plan; a recreation management plan; an information, education, and interpretation plan; and a recreation monitoring and reporting plan.

⁶ Proposed McCloud-Pit Project relicensing studies include assessing existing and future recreation demand, assessing recreation supply and recreation

use impacts, as well as determining if recreation management, access, or development improvements are needed.

⁷ This may be a deviation from the original species composition due to logging activities.

⁸ Unless required by the Forest Service on National Forest Lands, PG&E does not propose to conduct eligibility evaluations for previously unevaluated sites. Instead, PG&E proposes to treat all unevaluated sites as if they are eligible for NRHP listing unless avoidance or elimination of potential adverse effects to a particular site is not feasible.



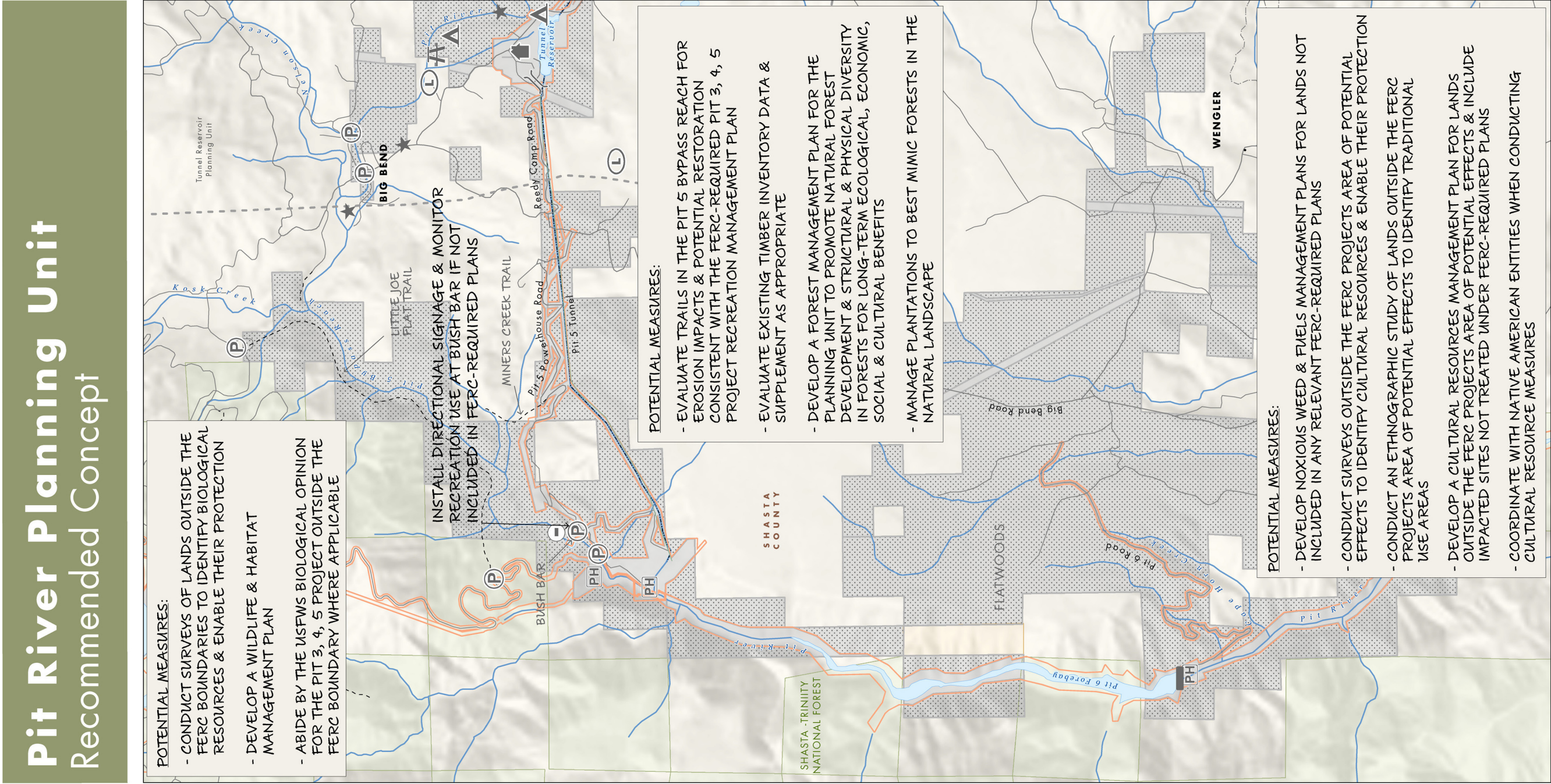
Pit River near James B. Black Powerhouse

Table PM-7 Objectives to Preserve and/or Enhance – Recommended Concept

Planning Unit Objective: Preserve and enhance biological and cultural resources and enhance sustainable forestry management.		
Beneficial Public Value	Objective	Potential Measures to Preserve and/or Enhance BPVs – Not Requirements*
Protection of the Natural Habitat of Fish, Wildlife, and Plants	Preserve and enhance habitat in order to protect special biological resources.	<ul style="list-style-type: none">• Conduct surveys of lands outside the FERC boundaries to identify biological resources and enable their protection.• Develop a noxious weed management plan for lands not included in relevant FERC-required plans.• Abide by the USFWS Biological Opinion for the Pit 3, 4, 5 Project outside the FERC boundary where applicable.• Evaluate trails in the Pit 5 bypass reach for erosion impacts and potential restoration consistent with the FERC-required Pit 3, 4, 5 Project recreation management plan.• Develop a wildlife and habitat management plan for the planning unit.
Preservation of Open Space	Preserve open space in order to protect natural and cultural resources and the recreation setting.	<ul style="list-style-type: none">• Apply permanent conservation easements to ensure a higher level of open space protection.
Outdoor Recreation by the General Public	Enhance recreational facilities in order to provide appropriate recreation management and enhance the recreation experience.	<ul style="list-style-type: none">• Install directional signage to Bush Bar if not developed in the FERC-required information, education, and interpretation plan.• Monitor recreation use at Bush Bar if this site is not included in the FERC-required Pit 3, 4, 5 Project recreation monitoring and reporting plan.**
Sustainable Forestry	Develop and implement forestry practices in order to contribute to a sustainable forest, preserve and enhance habitat, as well as to ensure appropriate fuel load management.	<ul style="list-style-type: none">• Evaluate existing timber inventory data and supplement as appropriate.• Develop a forest management plan for the planning unit to promote natural forest development and structural and physical diversity in forests for long-term ecological, economic, social, and cultural benefits.• Manage plantations to best mimic forests in the natural landscape.• Develop a fuels management plan for lands not included in relevant FERC-required plans to ensure long-term forest health and reduce fuel loading and fire hazard.
Agricultural Uses		None proposed.
Preservation of Historic Values	Identify and manage cultural resources in order to ensure their protection.	<ul style="list-style-type: none">• Conduct surveys outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs to identify cultural resources and enable their protection.• Conduct an ethnographic study of lands outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs to identify traditional use areas.• Develop a cultural resources management plan for lands outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs and include impacted sites not treated under FERC-required plans.• Coordinate with Native American entities when conducting cultural resource measures.

* This is a set of recommended possibilities for the preservation and enhancement of BPV’s, and is not intended to be a set of requirements for future land management.

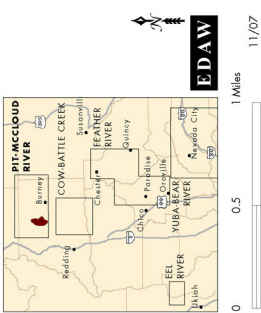
** Denotes site specific measure.



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- PG&E Lands Preliminarily Designated for Disposition
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- NPS
- Other/NGO
- State
- USFS
- Federal Wilderness
- Concept Features**
- Modify Existing Feature
- New Feature
- Trail
- Existing Features**
- Boat Launch
- Campground
- Dam
- Day Use
- Feature of Importance
- Fishing
- Fish Barrier Dam
- Gate
- Lodging
- Non-Motorized Boating
- Parking
- Powerhouse
- Private Camp
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- Trailhead
- Whitewater Put-In/Take-Out
- FERC Boundary
- Stream / River
- Canal / Ditch
- Pipeline
- Primary Roads
- Secondary Roads
- OHV Roads
- Trail

All symbols may not appear on the map

**PRELIMINARY SET OF
RECOMMENDED POSSIBILITIES
-NOT REQUIREMENTS**



Pit River Planning Unit

All recommended measures must be coordinated with relicensing efforts to avoid inconsistent or duplicative efforts.

Fish, Plant, and Wildlife Habitat

Potential Measure:

- *Conduct surveys of lands outside the FERC boundaries to identify biological resources and enable their protection.*

Many habitat and species studies were conducted for the Pit 3, 4, 5 Project relicensing within the FERC boundary, and studies will be conducted for the McCloud-Pit Project relicensing as well. Outside the FERC boundaries, some surveys for habitat and/or species may have been performed before recent timber harvesting occurred; however, comprehensive biological resource surveying was likely not completed. To develop a greater understanding of all biological resources outside the FERC boundaries, the Stewardship Council recommends conducting surveys of lands outside the FERC boundaries to identify biological resources and enable their protection.

Potential Measure:

- *Develop a noxious weed management plan for lands not included in relevant FERC-required plans.*

The Pit 3, 4, 5 Project License Application documented noxious weeds in the Pit 5 bypass reach area, but surveys did not fully cover lands within the planning unit. In addition, surveys for the McCloud-Pit Project relicensing will likely only cover lands within the FERC boundary. Noxious weeds within the Pit 3, 4, 5 Project FERC boundary will be addressed in the vegetation and invasive weed management plan required in the New License for the Pit 3, 4, 5 Project and possibly under a similar plan for lands within the McCloud-Pit Project FERC boundary. FERC also suggested in their Final EIS for the Pit 3, 4, 5 Project that PG&E implement weed control measures on its adjacent non-project lands to reduce the risk of the spread of weed infestations. Therefore, the Stewardship Council recommends developing a noxious weed management plan for lands not included in the FERC license required plan for the Pit 3, 4, 5 Project and any future FERC license required plan for the McCloud-Pit Project. Development of the noxious weed management plan should be coordinated with existing PG&E noxious weed efforts, and the wildlife and habitat, fuels, and forest management plans, and should be consistent with relevant FERC license required plans.

Potential Measure:

- *Abide by the USFWS Biological Opinion for the Pit 3, 4, 5 Project outside the FERC boundary where applicable.*

The USFWS Biological Opinion contains a condition that specifically requires any easement holders or owners of land previously owned by PG&E to abide by the Biological Opinion for the Pit 3, 4, 5 Project. FERC addressed this in the Final EIS for the Pit 3, 4, 5 Project and indicated that this condition appeared to apply to PG&E lands outside the FERC boundary, which are beyond FERC jurisdiction. To ensure species protection, the Stewardship Council recommends that easement holders or fee title owners of lands in the planning unit outside the FERC boundary abide by the USFWS Biological Opinion for the Pit 3, 4, 5 Project where applicable.

Potential Measure:

- *Evaluate trails in the Pit 5 bypass reach for erosion impacts and potential restoration consistent with the FERC-required Pit 3, 4, 5 Project recreation management plan.*

The Stewardship Council also recommends evaluating trails in the Pit 5 bypass reach area of the planning unit for erosion impacts and potential restoration. The Recreation Opportunities and Management Issues report for the Pit 3, 4, 5 Project identified erosion problems on trails in the Bush Bar area and erosion from off-road vehicle use in the Pit 5 bypass reach and at Bush Bar trails. The Stewardship Council recommends evaluating trails to determine which ones have erosion problems, as well as establishing priority, cost, and feasibility of restoring trails with erosion problems. Additionally, the trail evaluation should be consistent with the FERC license required Pit 3, 4, 5 Project recreation management plan, which will identify measures to maintain and upgrade trails within the Pit 3, 4, 5 Project area.

Potential Measure:

- *Develop a wildlife and habitat management plan for the planning unit.*

The Pit River Planning Unit provides habitat for a variety of species, including potentially many special status species. Additionally, the planning unit may provide some opportunities for restoration of trails to reduce erosion and sedimentation. To provide a comprehensive vision for habitat protection and enhancement within the planning unit, the Stewardship Council recommends developing a wildlife and habitat management plan. Once recommended biological resource surveys are completed, potential habitat enhancements can be identified and developed into a comprehensive plan describing habitat and species goals and objectives, as well as measures needed to enhance and protect habitat for plant and wildlife species. Monitoring of species and/or habitats would also be a component of the plan. The wildlife and habitat management plan should be developed in conjunction with the noxious weed, forest, and fuels management plans as well as habitat enhancement and protection measures already described herein. The wildlife and habitat management plan should also be consistent with relevant FERC license required plans developed as part of the Pit 3, 4, 5 Project and McCloud-Pit Project relicensing efforts.

Open Space

Potential Measure:

- *Apply permanent conservation easements to ensure a higher level of open space protection.*

The Stewardship Council recommends preserving open space values through permanent conservation easements. Conservation easements would describe all prohibited uses to maintain open space values, including the uses allowed. Recommendations do not include new development and are therefore not expected to decrease the scenic quality of the viewsheds.

Outdoor Recreation

Potential Measure:

- *Install directional signage to Bush Bar if not developed in the FERC-required information, education, and interpretation plan.*

Currently, there is no directional signage to the Bush Bar informal day use site. The Pit 3, 4, 5 Project New License requires, under the recreation management plan, that the Bush Bar site be improved and serve as the formal take-out for the Pit 5 bypass reach whitewater run. Directional signage would help users better locate the site, saving them time and energy and therefore enhancing their recreation experience. Therefore, the Stewardship Council recommends installing directional signage to Bush Bar on the Pit 5 Powerhouse Road if such signage is not developed as part of the FERC license required information, education, and interpretation plan. If recommended signage at Bush Bar is not included in the FERC license required plan, then signage at this site should be included in an appendix (non-jurisdictional) to the FERC license required information, education, and interpretation plan to ensure consistent message, format, and maintenance of signage within and outside the Pit 3, 4, 5 Project FERC boundary.

Potential Measure:

- *Monitor recreation use at Bush Bar if this site is not included in the FERC-required Pit 3, 4, 5 Project recreation monitoring and reporting plan.*

In addition to installing directional signage to Bush Bar, the Stewardship Council recommends monitoring recreation use at Bush Bar if this site is not included in the FERC license required Pit 3, 4, 5 Project recreation monitoring and reporting plan. With potential whitewater recreation flows in the Pit 5 bypass reach, use at Bush Bar may increase. Monitoring of recreation use could demonstrate when or if the site reaches capacity or if additional improvements are needed. If monitoring of Bush Bar is not included in the FERC license required recreation monitoring and reporting plan, then monitoring of this site should be included in an appendix (non-jurisdictional) to the FERC license required plan to ensure consistent monitoring of use at recreation sites within and outside the Pit 3, 4, 5 Project FERC boundary.

Sustainable Forestry

Potential Measures:

- *Evaluate existing timber inventory data and supplement as appropriate.*
- *Develop a forest management plan for the planning unit to promote natural forest development and structural and physical diversity in forests for long-term ecological, economic, social, and cultural benefits.*

Due to historical forest management, including even and uneven age management, the Flatwoods area has very different forest conditions than lands along the Pit River and in the northern portion of the planning unit. In addition, there is no overall documented vision for the Timber Management Units (TMUs) within the planning unit. Therefore, the Stewardship Council recommends developing a forest management plan for the planning unit through the evaluation of existing forest inventory data and supplemental information, when appropriate. In addition to supporting natural forest development, the forest management plan would promote holistic watershed management, supporting the enhancement of other BPVs over the long term. The forest management plan would also address the potential for research on planning unit lands related to sustainable forestry topics. The forest management plan should be developed in conjunction with the wildlife and habitat, noxious weed, and fuels management plans, as well as relevant FERC license required plans developed as part of the Pit 3, 4, 5 Project and McCloud-Pit Project relicensing efforts.

In areas where timber extraction is consistent with the forest management plan, timber harvesting techniques would be promoted that maintain mosaics of forest stands of different age, size, and rotation period. In addition to utilizing PG&E's uneven-age selection harvest system, harvesting practices and a monitoring program would be developed to protect watercourses and lakes and promote the restoration and conservation of natural forests. Post-harvest, a monitoring plan would be developed to ensure that forest management and the proposed harvesting schedule would be consistent with the forest management plan, promoting natural forest development in perpetuity.

Potential Measure:

- *Manage plantations to best mimic forests in the natural landscape.*

Currently, the planning unit contains several plantations, primarily in the Flatwoods area. The Stewardship Council recommends managing plantations to best mimic forests in the natural landscape. The scale and layout of plantation blocks would be consistent with the patterns of forest stands found in the natural landscape. Trees would be selected that are suitable for the natural conditions of the site. Unless unsuitable based on regeneration, native species would be selected and exotic species used only minimally and only when determined to present no adverse ecological impacts. Plantation management would be included as a component of the forest management plan.

Potential Measure:

- *Develop a fuels management plan for lands not included in relevant FERC-required plans to ensure long-term forest health and reduce fuel loading and fire hazard.*

An important component in minimizing fire risk is the reduction of fuel loads. The New License for the Pit 3, 4, 5 Project requires a fire management and response plan that will contain fire hazard reduction measures; however, this plan would only apply to lands within the Pit 3, 4, 5 Project FERC boundary. Similar actions may be proposed in McCloud-Pit Project relicensing efforts. Therefore, the Stewardship Council recommends developing a fuels management plan for lands not included in relevant FERC license required plans. The fuels management plan would ensure long-term forest health and reduction of fuel loading and fire hazard and may include a controlled fire component that could reduce wildfire danger and enhance deer winter range. FERC suggested that PG&E consider such actions for adjacent non-project lands, but these actions would need to be weighed against potential negative effects on other resources. The fuels management plan would identify when and where controlled fire would be an appropriate fuel reduction technique. Development of the fuels management plan should be coordinated with the wildlife and habitat, noxious weed, and forest management plans and should be consistent with relevant FERC license required plans.

Agricultural Uses

None recommended.

Preservation of Historic Values

Potential Measures:

- *Conduct surveys outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs to identify cultural resources and enable their protection.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

Many cultural resource investigations have been conducted within the Pit 3, 4, 5 Project area, and the Pit 5 bypass reach was surveyed again in 1999 and 2000 for relicensing. Though the area within the Pit 3, 4, 5 Project Area of Potential Effects (APE, generally the area within the FERC boundary, 25 feet on either side of project roads, and most flat terraces within the Pit River reaches) has been thoroughly documented, it is unclear the extent to which the area outside the APE has been studied, possibly for timber harvests and other activities. Additionally, it is likely that only areas within the McCloud-Pit Project APE will be surveyed during relicensing of that FERC Project. With a high likelihood of cultural sites outside the APE, the Stewardship Council recommends conducting surveys on lands outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs to identify cultural resources and enable their protection. Documentation efforts should be coordinated with Native American entities.

Potential Measures:

- *Conduct an ethnographic study of lands outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs to identify traditional use areas.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

Ethnographic studies were conducted in 1984 and identified 102 ethnographic locations within the Pit 3, 4, 5 Project APE. The Pit River Tribe requested that PG&E conduct additional ethnographic studies, covering dance areas, fasting areas, and other traditional practices and land use. The new ethnographic study identified additional traditional cultural properties, including traditional plant gathering locations, within the Pit 3, 4, 5 Project APE. However, traditional use areas outside the Pit 3, 4, 5 Project APE (and likely outside the McCloud-Pit Project APE) are not being studied, and the planning unit contains significant acreage outside the APE. Thus, the Stewardship Council recommends conducting an ethnographic study of lands outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs to identify traditional use areas, including areas traditionally used for plant gathering. This information would provide important baseline data for future management activities; for instance, if restoration activities were proposed for traditional plant gathering areas, traditional plants could be used in trail restoration and thus ethnobotanical use of the planning unit could be enhanced. The ethnographic study should be coordinated with Native American entities.

Potential Measures:

- *Develop a cultural resources management plan for lands outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs and include impacted sites not treated under FERC-required plans.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

There are identified cultural sites within the Pit 3, 4, 5 Project APE Pit 5 bypass reach area that are being impacted by a variety of uses; however, impacts are not related to the FERC Project and therefore PG&E did not propose treatment for these sites in the Cultural Resources Management

Plan (part of the project License Application). Uses such as logging, trails, vandalism, and erosion are impacting these cultural sites. Additionally, there are likely cultural resources on lands within the planning unit outside the FERC boundary.

To preserve cultural resources, the Stewardship Council recommends developing a cultural resources management plan for lands outside the Pit 3, 4, 5 Project and McCloud-Pit Project APEs, as well as any impacted sites that are not proposed for treatment under the FERC license required Pit 3, 4, 5 Project final Historic Properties Management Plan (HPMP). Similarly, sites not protected in any McCloud-Pit Project cultural resource plans should be included as well. The plan would include appropriate measures for the identification, evaluation, and treatment of cultural resources (archaeological and historical), as well as traditional use areas. Treatment measures could include avoidance, specific protective measures (e.g., fencing), site monitoring, and methods to preserve, restore, or enhance cultural resource values through conservation easements, management agreements, or through public interpretation and education programs. Development of the cultural resources management plan should be consistent with relevant FERC license required plans and should be coordinated with Native American entities.