

FALL RIVER VALLEY PLANNING UNIT

Pit-McCloud River Watershed

Existing Conditions & Uses

Overview

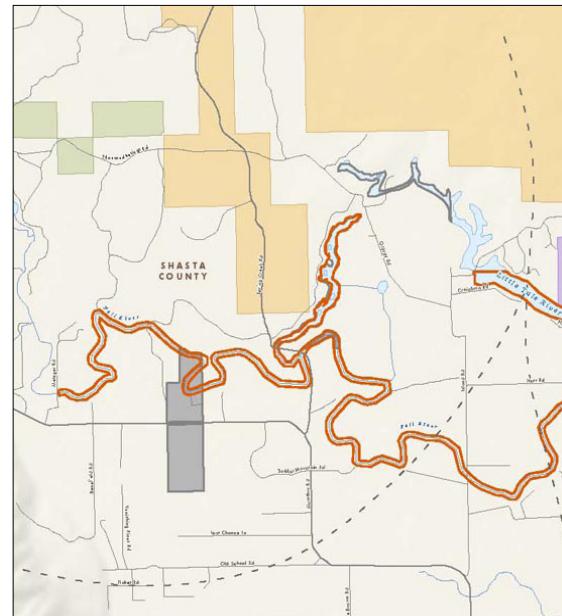
- Over 200 acres in Shasta County
- Scenic land along Fall River; includes lands in Spring and Lava Creeks and two ponds
- Part of Pit 1 Project (FERC #2687); New License issued March 2003
- 168 acres outside the FERC boundary; 43 acres inside the FERC boundary

As shown in Figure PM-1, the Fall River Valley Planning Unit is located east of the town of Dana and just west of the McArthur Swamp Planning Unit. The site contains several waterbodies including the Fall River, Spring Creek, Lava Creek, and Ivy Horr northern and southern ponds. The planning unit includes a strip of land extending from the Fall River south across McArthur Road; lands in Spring and Lava Creeks; a small piece of land connecting Lava Creek to the southern pond; lands in both ponds; and a small piece of land on the Fall River east of Spring Creek.

There is no hydropower development within the planning unit; however, lands within Fall River



Underground gas line crossing planning unit



Fall River Valley Planning Unit
Shasta County

and Spring Creek are within the Pit 1 FERC Project (#2687) boundary. Gas transmission lines cross the full length of the Fall River land section. The planning unit is surrounded entirely by private and Tribal land, with the U.S. Bureau of Land Management's (BLM) Timbered Crater Wilderness Study Area located north of Lava Creek and the two ponds, and additional public lands to the west.

Fish, Plant, and Wildlife Habitat

The planning unit provides a range of habitats; most of the land is forested, with grasslands along the gas pipeline and at the northern end of the lands bordering the Fall River. Wetlands also occur near McArthur Road, and may sporadically exist adjacent to watercourses that occur throughout the planning unit. Riparian and instream habitats are located along and within the Fall River and Spring and Lava Creeks, as well as the two ponds. There are at least two pairs of nesting bald eagles in the greater area, and bald eagles have also been seen wintering in the planning unit area. Fall River Valley is Shasta County's most important waterfowl nesting area. Additionally, the Fall River Valley has been designated by the Audubon Society as an



Fall River Valley Planning Unit

Existing Conditions

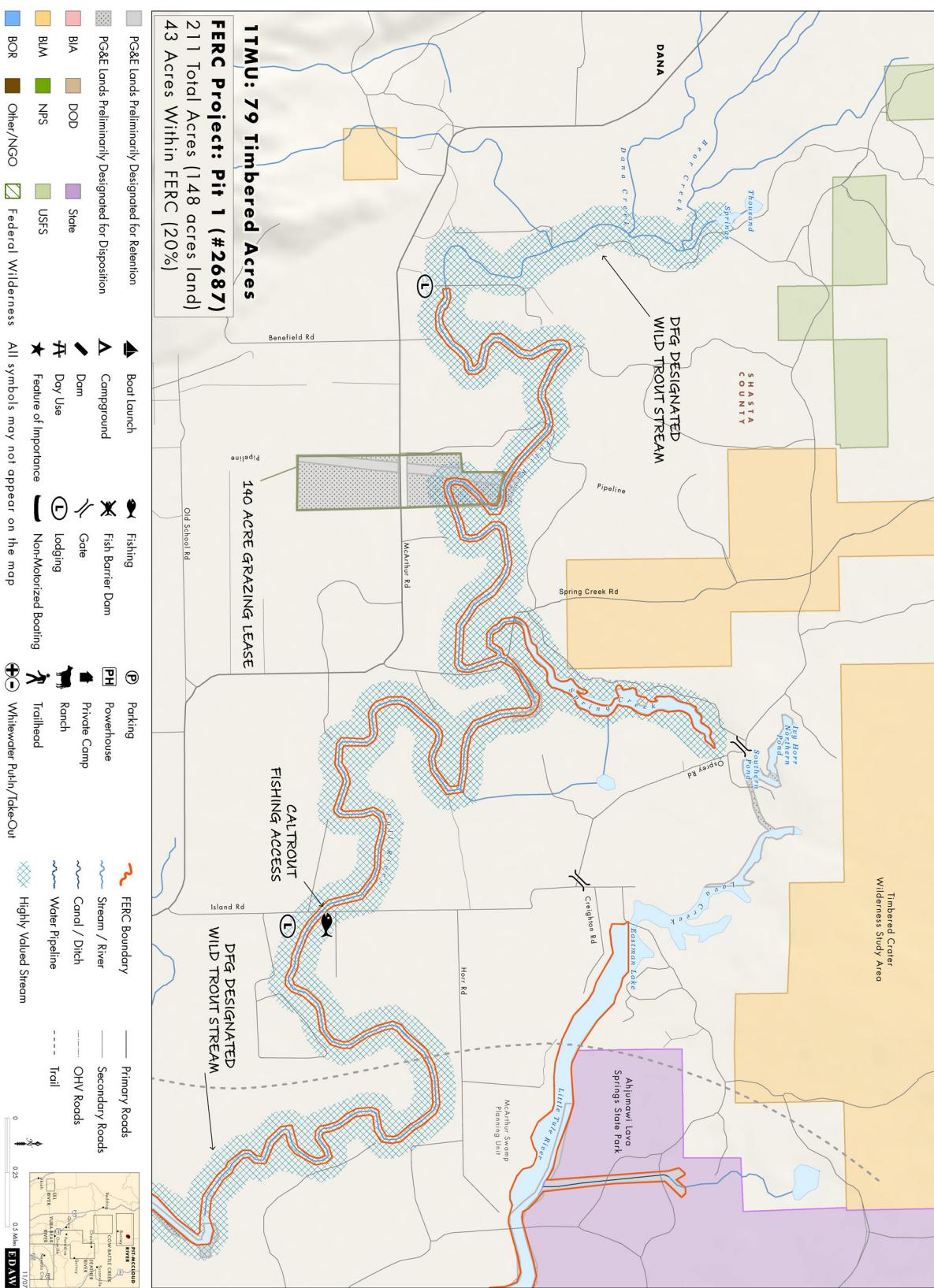


Figure PM-1

FALL RIVER VALLEY PLANNING UNIT

Pit-McCloud River Watershed

Important Bird Area¹ based on the approximately 17 species of sensitive bird species that breed in the valley and the significant numbers (over 4,000) of migratory and wintering birds such as ruddy duck, American wigeon, and mallard that use the valley.

One of the largest remaining populations and one of the three remaining allopatric populations (free of the non-native signal crayfish) of the Federally endangered Shasta crayfish are found in Spring Creek, with additional nearby populations in Thousand Springs, Fall River, and Lava Creek. Shasta crayfish no longer inhabit the two ponds (formerly part of the Lava Creek drainage) due to predation by introduced largemouth bass, siltation, and nutrient loading. Work to enhance habitat for Shasta crayfish is ongoing in this area.²

The Fall River contains trophy rainbow trout and is a California Department of Fish and Game (DFG)-designated Wild Trout stream. Rough sculpin, an endemic special status fish, are located in all planning unit waterbodies. There is no botanical information available for the planning unit area, and there does not appear to be comprehensive information regarding terrestrial and aquatic resources within the planning unit.

Open Space

The Shasta County General Plan recognizes the rivers, creeks, and associated riparian corridors and floodplains within the county as major open space resources. The Fall River Valley area is very scenic, and the Spring Creek, Lava Creek, and pond lands provide open space and scenic viewsheds for adjacent private homes and ranches. Lands south of the Fall River provide scenic views from McArthur Road, an important local thoroughfare.

Outdoor Recreation

Recreational use of the planning unit lands is limited because of the lack of public access across adjacent privately owned properties. However, the public can access the planning unit

lands via the Fall River, where fishing is popular. Public boating/fishing access to the Fall River is available at the California Trout, Inc. (CalTrout) Fishing Access (see Figure PM-1). There is also likely some fishing use of Lava Creek, but this use is probably only by adjacent landowners, as there is no public access to the creek.³ There is a fence across Spring Creek at Spring Creek Road, preventing boaters or anglers from accessing planning unit lands in Spring Creek. Access to the Ivy Horr ponds is across private property, and therefore recreation use of these ponds is probably limited to adjacent landowners only.

Forest Resources

The land is forested on both sides of the gas pipeline south of the Fall River. There is one PG&E Timber Management Unit (TMU) on the planning unit that includes 79 acres of timber, consisting of second-growth eastside pine stands. Current PG&E timber management is considered salvage only, meaning that management activities are restricted to mitigating for watershed and forest health issues, including emergency salvage harvesting following insect attack or a catastrophic event.

Agricultural Uses

Most grazing activity occurs along the gas pipeline and at the northern end near the Fall



Northern bank of Fall River within planning unit

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Eastern bank of Fall River within planning unit

River; the rest of the area is forested with little to no understory vegetation. Currently, there is one grazing lease (140 acre) on the planning unit on the south side of the Fall River. While the shoreline has been fenced off by the lessee, it appears that some cows do manage to enter the riparian area. The area around the old shack (possibly an old fishing shack) by the river is also fenced off from grazing.

Historic Resources

The planning unit is within the ancestral territory of the Ahjumawi band of the Pit River Tribe, and at least two documented prehistoric cultural sites are located here; additional cultural sites are likely as well. Additionally, the planning unit is within the historic area of Fort Crook, established in 1857, and may therefore contain remains of the historic fort.

Stewardship Council Recommendations

The Stewardship Council recommends that the land and land uses in the Fall River Valley Planning Unit be preserved and enhanced by focusing on the excellent habitat values and species, particularly threatened and endangered species, opportunities to enhance recreation experiences and recreation access, and the

historic and cultural values of the region. In presenting the Recommended Concept provided here, our objective is to preserve this unique ecosystem while also providing appropriate recreational opportunities, and preserving important grazing resources and cultural resources.

Objective: Preserve and enhance biological, cultural and agricultural resources, while enhancing recreation and public access.

As shown on Table PM-1, the Stewardship Council has identified a number of preservation and/or enhancement measures that may contribute to the conservation management program for Fall River Valley. 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 Fall River Valley Planning Unit consists of fragmented but vital habitat in an area mostly surrounded by private lands. 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. We also suggest an assessment of the need for muskrat control along the banks of the Fall River to improve bank stability. These studies will likely be followed by management plans to ensure implementation of preservation and enhancement measures for specific resources. The Stewardship Council

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also supports habitat restoration efforts for the endangered Spring Cheek Shasta crayfish.

Management of the property to preserve and enhance habitat may also include addressing noxious weeds, including aquatic weeds. Removal of old, unneeded grazing fence near the Fall River is also encouraged to improve the movement of wildlife in the area and enhance habitat connectivity. We encourage close coordination with the U.S. Fish and Wildlife Service (USFWS) and other resource-focused organizations working in the region, and that all planning be considered in conjunction with fuels, forest, and rangeland management plans.

Open Space

Objective: Preserve open space in order to protect natural and cultural resources, viewsheds, agricultural land uses, and the recreation setting.

This concept would preserve open space by limiting new construction to minor additions of recreation facilities, 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.

Outdoor Recreation

Objective: Enhance recreational facilities in order to provide additional public access and recreation opportunities.

The Fall River Valley Planning Unit has the potential to be an enjoyable recreational area offering fishing, day use, and educational opportunities. The Stewardship Council looks to enhance these opportunities by recommending modest enhancements to recreational facilities and river access along the Fall River lands (see Figure PM-2). We recommend enhancements focused on developing a shoreline day use area, a



Fall River & riparian habitat

small parking area, a trail connecting the parking area to the shoreline day use area, as well as informational signs on the important biological and cultural resources in the area. These facilities and amenities would increase access to the spectacular Fall River and facilitate public use of this trophy rainbow trout area. Special consideration would also be given to youth education opportunities at the site.

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.



Forest resources & wildlife habitat

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Although forest resources in the Fall River Valley Planning Unit are limited in size, the Stewardship Council recommends that future care and management of the land include developing a long-term vision for forest management in the area, addressing silvicultural practices, holistic watershed management, and fuels management. The forest and fuels management plans should be coordinated with the noxious weed and wildlife and habitat management plans. We expect that all of these plans would be developed in coordination with adjacent landowners and grazing management and practices as appropriate.

Agricultural Uses

Objective: Preserve and enhance grazing in order to support associated economic benefits, as well as to protect open space and habitat resources.

The Fall River Valley Planning Unit contains one existing grazing lease along the south side of the Fall River. The Stewardship Council looks to preserve this resource and important economic use as part of the long-term management of this planning unit. To support this effort, we anticipate that a baseline conditions report will be required to describe current agricultural, physical, and overall biological conditions of the area. From this, specific determinations can be made to identify and manage grazing management and practices in balance with other uses and values of the property.



Grassland utilized for livestock grazing

Preservation of Historic Values

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

The Fall River Valley Planning Unit likely contains many cultural resources. The Stewardship Council aims to support increased understanding of these resources and ensure they are appropriately protected. To meet this objective, we recommend that cultural resource studies be conducted to understand the resources and that management plans be developed and implemented as appropriate to protect resources. Throughout this effort, the Stewardship Council recommends close coordination with Native American entities and consistency with any FERC license required management and monitoring plans that include portions of the planning unit.

Endnotes

¹ This designation by Audubon is to highlight areas that are biologically exceptional and is intended to heighten the awareness of the State's avifauna, their habitat, and the potential threats to the stability of bird populations.

² In 2002, a Shasta crayfish habitat enhancement project added substrate to Spring Creek. Currently, there is a License-required Shasta crayfish habitat enhancement project in Spring Creek to enhance the barrier between signal crayfish and Shasta crayfish and remove non-native signal crayfish from Spring Creek.

³ The Lava Creek Lodge property has recently changed ownership and no longer provides public boat access or rental of lodging units.

Table PM-1 Objectives to Preserve and/or Enhance – Recommended Concept

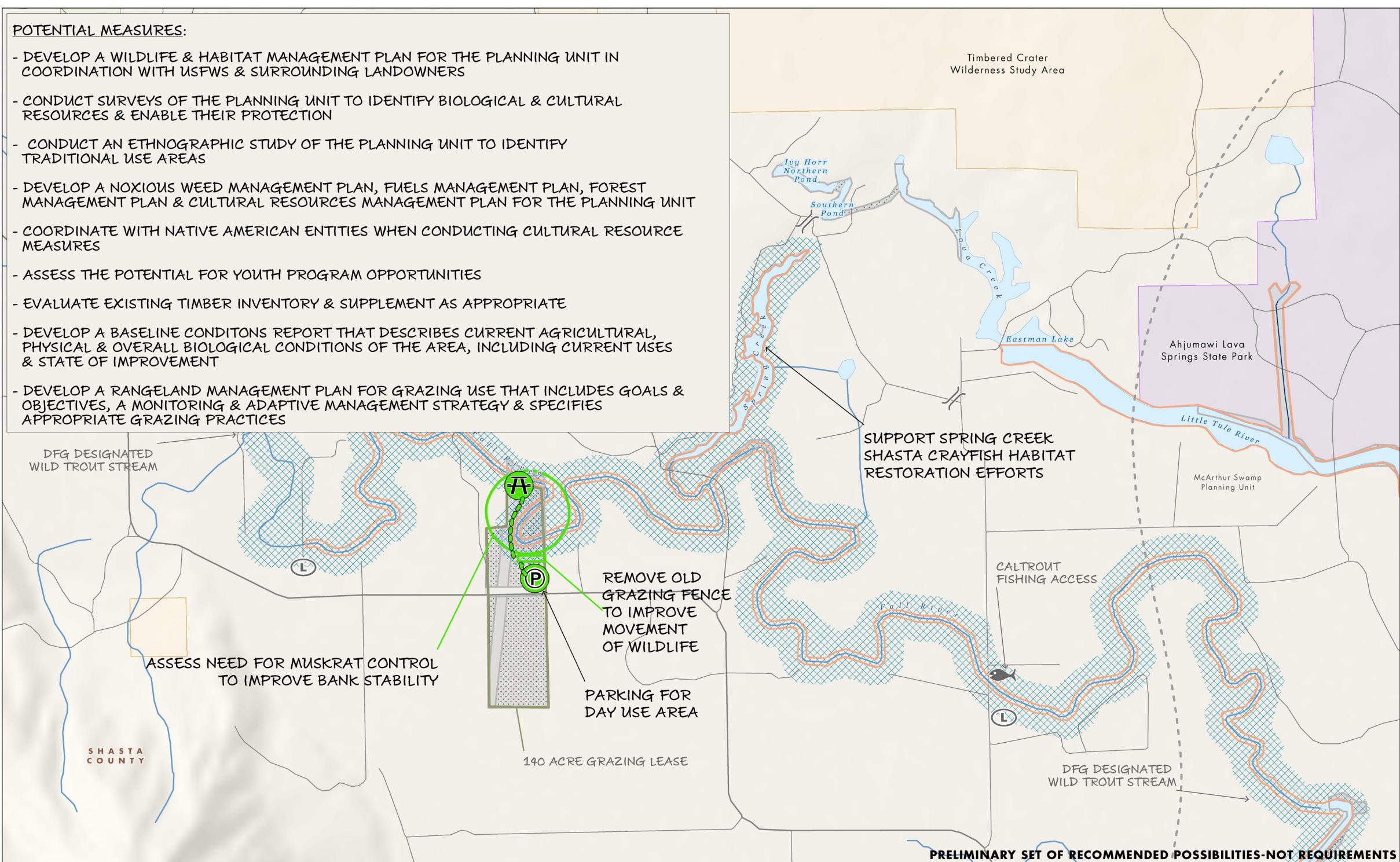
Beneficial Public Value	Objective	Potential Measures to Preserve and/or Enhance BPVs – Not Requirements*
Protection of the Natural Habitat of Fish, Wildlife, and Plants	<p>Preserve and enhance habitat in order to protect special biological resources.</p>	<ul style="list-style-type: none"> Conduct surveys of the planning unit to identify biological resources and enable their protection. Support Spring Creek Shasta crayfish habitat restoration efforts.** Develop a wildlife and habitat management plan for the planning unit in coordination with USFWS and surrounding landowners to address habitat enhancement and management, water access, and recurring signal crayfish surveys and removal. Assess the need for muskrat control along the banks of the Fall River to improve bank stability.** Remove the old grazing fence near Fall River to improve movement of wildlife.** Develop a noxious weed management plan for the planning unit.
Preservation of Open Space	<p>Preserve open space in order to protect natural and cultural resources, viewsheds, agricultural land uses, and the recreation setting.</p>	<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	<p>Enhance recreational facilities in order to provide additional public access and recreation opportunities.</p>	<ul style="list-style-type: none"> Assess the potential for youth program opportunities. Develop a shoreline day use area along the Fall River.** Develop a small parking area just off McArthur Road for day use area visitors.** Develop a trail from the day use area to the parking area.**
Sustainable Forestry	<p>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.</p>	<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. Develop a fuels management plan for the planning unit to ensure long-term forest health and reduce fuel loading and fire hazard.
Agricultural Uses	<p>Preserve and enhance grazing in order to support associated economic benefits, as well as to protect open space and habitat resources.</p>	<ul style="list-style-type: none"> Develop a baseline conditions report that describes current agricultural, physical, and overall biological conditions of the area, including current uses and state of improvement. Develop a rangeland management plan for grazing use that includes goals and objectives, a monitoring and adaptive management strategy, and specifies grazing practices that address soil and water conservation, erosion control, pest management, nutrient management, vegetation management, habitat protection, and cultural resources management.
Preservation of Historic Values	<p>Identify and manage cultural resources in order to ensure their protection.</p>	<ul style="list-style-type: none"> Conduct surveys of the planning unit to identify cultural resources and enable their protection. Conduct an ethnographic study of the planning unit to identify traditional use areas. Develop a cultural resources management plan for the planning unit. 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.

Fall River Valley Planning Unit Recommended Concept

FALL RIVER VALLEY PLANNING UNIT Pit-McCloud River Watershed



PG&E Lands Preliminarily Designated for Retention	
PG&E Lands Preliminarily Designated for Disposition	
BIA	DOD
BLM	NPS
BOR	Other/NGO
	Federal Wilderness

Concept Features	
Modify Existing Feature	
New Feature	

Existing Features	
Boat Launch	Fishing
Campground	Fish Barrier Dam
Dam	Gate
Day Use	Lodging
Feature of Importance	Non-Motorized Boating
	Whitewater Put-In/Take-Out

FERC Boundary
Stream / River
Canal / Ditch
Water Pipeline
Highly Valued Stream

Parking	Primary Roads
Powerhouse	Secondary Roads
Private Camp	OHV Roads
Ranch	Trail
Trailhead	
Whitewater Put-In/Take-Out	

All symbols may not appear on the map



Figure PM-2

Fall River Valley Planning Unit

Fish, Plant, and Wildlife Habitat

Potential Measure:

- *Conduct surveys of the planning unit to identify biological resources and enable their protection.*

Very little data are available within the planning unit regarding terrestrial and aquatic resources. Available information is likely outdated, particularly with regard to Shasta crayfish populations because signal crayfish, a competitor, continue to invade new areas. It also appears that most species monitoring that is related to the Pit 1 Project does not cover the Fall River area contained within this planning unit. No botanical information is available for the planning unit. However, habitats within the planning unit likely provide for a variety of species. Therefore, the Stewardship Council recommends conducting surveys of the planning unit to identify biological resources and provide needed information for future management decisions.

Potential Measure:

- *Support Spring Creek Shasta crayfish habitat restoration efforts.*

The biggest threat to the endangered Shasta crayfish, the only remaining species of crayfish native to California, is the invasion of their habitat by non-native crayfish species, primarily signal crayfish. Creeks and rivers in the planning unit provide habitat for Shasta crayfish. Upper Spring Creek contains the largest remaining population of Shasta crayfish.¹ Currently, the Shasta Crayfish Technical Review Committee, formed by the recent Pit 1 Project and Hat Creek Project License Orders, has proposed a signal crayfish barrier project at Spring Creek.² To promote habitat enhancement for an endangered species, the Stewardship Council recommends supporting the Spring Creek Shasta crayfish habitat restoration efforts by potentially providing access to the area for restoration efforts or accommodating other project-related needs that would enhance the recovery of the imperiled crayfish.

Potential Measure:

- *Develop a wildlife and habitat management plan for the planning unit in coordination with USFWS and surrounding landowners to address habitat enhancement and management, water access, and recurring signal crayfish surveys and removal.*

In addition to the Spring Creek subpopulation, Lava Creek has the largest nearly continuous expanse of Shasta crayfish habitat of any location. Spring Creek, Lava Creek, and the two Ivy Horr ponds are all surrounded by private lands with no formal agreement between PG&E and adjacent landowners regarding use of these lands. Private land use can directly affect the quality of habitat on planning unit lands. To both protect and enhance valuable habitat for the endangered Shasta crayfish, the Stewardship Council recommends developing a wildlife and habitat management plan for the planning unit after biological surveys are completed. This plan would be created in conjunction with the U.S. Fish and Wildlife Service (USFWS, as it would affect at least one listed species – Shasta crayfish), and with surrounding landowners (as their cooperation, support, and permission to gain site access would be necessary to protect habitat and species and perform habitat enhancements).

Once surveys are completed, potential habitat enhancements can be identified and developed into a comprehensive plan describing goals and objectives for habitat and species, as well as measures needed to enhance and protect habitat for both plant and wildlife species. Potential enhancements could include restoration of Shasta crayfish habitat in Lava Creek or protection of bald eagle nesting and perching tree areas. Monitoring of species and/or habitats would also be developed as a component of the plan. The plan could also formalize access to planning unit waters and include recurring signal crayfish surveys and removal efforts as an essential measure for protection of Shasta crayfish. Development of the wildlife and habitat management plan should be coordinated with the rangeland management, noxious weed, forest management, and fuels management plans.

Potential Measure:

- *Assess the need for muskrat control along the banks of the Fall River to improve bank stability.*

In recent years, the Fall River has experienced a high sediment load. Muskrat burrowing can cause bank erosion and breakdown, thereby contributing sediment into the river. Muskrats can also prey on Shasta crayfish. Due to known muskrat activity in the Fall River area, the Stewardship Council recommends assessing the need for muskrat control along the banks of the Fall River to improve bank stability and reduce potential erosion, sedimentation, and other possible detrimental impacts to Shasta crayfish. If muskrat control is found to be needed, it should be included within the wildlife and habitat management plan.

Potential Measure:

- *Remove the old grazing fence near the Fall River to improve movement of wildlife.*

The current grazing lessee has recently built a new fence around the Fall River shoreline to prevent cattle from grazing in the riparian area. However, remnants of the old fence are still standing in one area, and the Stewardship Council recommends removing this fence to improve movement of wildlife. Removal of the old fence should be included within the wildlife and habitat management plan.

Potential Measure:

- *Develop a noxious weed management plan for the planning unit.*

It is unknown if there are noxious weeds within the planning unit. Due to the presence of noxious weeds within the greater Fall River Valley area, there is potential for noxious weed infestations within the planning unit. Therefore, the Stewardship Council recommends developing a noxious weed management plan for the planning unit, which would include management of both terrestrial and aquatic weeds. Development of the noxious weed management plan should be coordinated with existing PG&E noxious weed efforts, and the wildlife and habitat management, rangeland management, fuels management, and forest management plans.

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 level of uses allowed. Recommendations include some recreation development, but are not expected to decrease the scenic quality of the viewsheds.

Outdoor Recreation

Potential Measure:

- *Assess the potential for youth program opportunities.*

The Fall River Valley Planning Unit is a prime area for education as it provides a primitive recreation experience and a variety of resources on-site, including forests, cultural resources, aquatic and terrestrial resources, grassland, and open space. Youth could learn forestry techniques, history of the Fall River area, wildlife habitat requirements, plant identification, wildlife tracking, low impact recreation techniques, and how to fly-fish, among a long list of potential activities. Therefore, the Stewardship Council recommends assessing the potential for youth program opportunities within the planning unit. The recommended parking and day use facilities (as described below) could serve youth programs by providing a site for meeting, boat launching, and gathering for program activities.

Potential Measure:

- *Develop a shoreline day use area along the Fall River.*

In general, the Fall River has very limited public use due to a lack of public facilities and access. The only public Fall River recreation site, the California Trout, Inc. (CalTrout) Fishing Access located downstream of the planning unit, contains parking but no day use facilities. Therefore, boaters on the Fall River currently do not have a place to get out of their boats for picnicking or to use the restroom. The general public has expressed an interest in additional day use access to the river. Thus, the Stewardship Council recommends developing a shoreline day use area on the northern edge of the Fall River lands.³ The shoreline day use area would provide a place for anglers to come ashore and relax along the river, a site for visitors to picnic and enjoy the river setting, and a place for wildlife viewing and birding.

Potential Measures:

- *Develop a small parking area just off McArthur Road for day use area visitors.*
- *Develop a trail from the day use area to the parking area.*

The Stewardship Council also recommends developing a small parking area for non boat-in visitors as well as a trail connecting the parking area to the day use area. Therefore, the day use area would function as both a boat-in and walk-in facility. Providing such a facility would allow more people the opportunity to see the spectacular Fall River, fish for trophy rainbow trout, view the abundance of wildlife that use the Fall River Valley, and enjoy the primitive setting and open space of the planning unit lands along the Fall River. Development of these recommended facilities would need to be coordinated with any on-site grazing lessees so as not to hinder grazing use of the planning unit. Additionally, prior to development of recreation facilities, impacts on other resources, such as habitat or cultural resources, should be evaluated.

Signage could also be developed at the day use area, including signage regarding special fishing regulations; however, information related to wildlife and cultural resources would be better

developed after recommended surveys are completed. Additionally, as facilities are recommended for the shoreline area, the recommended facilities should be included in an appendix (non-jurisdictional) to the existing Pit 1 Project Recreation Plan to ensure long-term management, maintenance, and monitoring of use of the recommended facilities.

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.*

The planning unit currently contains one PG&E Timber Management Unit (TMU) that is managed for emergency salvage operations; however, there is no overall documented vision for this TMU. 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. As this is an area mostly managed under a salvage-only prescription, snags and downed woody debris would be maintained in the planning unit when not deemed a safety, fire, or disease hazard as these are important components for wildlife habitat and forest regeneration. Development of the forest management plan should be coordinated with development of the wildlife and habitat management, noxious weed management, rangeland management, and fuels management plans.

Potential Measure:

- *Develop a fuels management plan for the planning unit to ensure long-term forest health and reduce fuel loading and fire hazard.*

Due to the location of the planning unit near the towns of Dana and McArthur, presence of rural residential development nearby, and the potential for the accumulation of fuels, reduction of fuels within the planning unit is important. Therefore, the Stewardship Council recommends developing a fuels management plan for the planning unit to ensure long-term forest health and reduce fuel loading and fire hazard. Development of the fuels management plan should be coordinated with the wildlife and habitat management, noxious weed management, rangeland management, and forest management plans.

Agricultural Uses

Potential Measure:

- *Develop a baseline conditions report that describes current agricultural, physical, and overall biological conditions of the area, including current uses and state of improvement.*

It is unknown if range assessments have been done for the planning unit and whether or not appropriate grazing practices are being used by the grazing lessee. Thus, the Stewardship Council recommends developing a baseline conditions report that describes current agricultural,

physical, and overall biological conditions of the area, including current uses and state of improvement. This report would help determine appropriate grazing practices, regime, and management.

Potential Measure:

- *Develop a rangeland management plan for grazing use that includes goals and objectives and a monitoring and adaptive management strategy, and specifies grazing practices that address soil and water conservation, erosion control, pest management, nutrient management, vegetation management, and habitat protection.*

Once the recommended baseline conditions report is completed, the Stewardship Council recommends developing a rangeland management plan for grazing use that includes goals and objectives and a monitoring and adaptive management strategy, and specifies grazing practices that may address topics including soil and water conservation, erosion control, pest management, nutrient management, vegetation management, habitat protection, and cultural resources management. This plan would ensure that grazing use within the planning unit meets Stewardship Council policy for agricultural uses on Watershed Lands.

To coordinate potential habitat and recreation enhancements with grazing uses, the rangeland management plan should be developed in conjunction with the wildlife and habitat management plan, noxious weed management plan, fuels management plan, forest management plan, and development of day use, trail, and parking facilities to ensure consistency and complementary measures.

Preservation of Historic Values

Potential Measures:

- *Conduct surveys of the planning unit to identify cultural resources and enable their protection.*
- *Conduct an ethnographic study of the planning unit to identify traditional use areas.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

Most of the planning unit, apart from lands within the FERC boundary that are underwater, is not included within the Pit 1 Project Area of Potential Effects (APE). Therefore, it is likely that cultural resource surveys were not conducted on most of the planning unit during Pit 1 Project relicensing studies. It is unknown if the rest of the planning unit has been surveyed for cultural resources. Additionally, lands within this planning unit may have been associated with Fort Crook and may have been used by Native Americans. Therefore, the Stewardship Council recommends surveying the planning unit to identify cultural resources and enable their protection and conducting an ethnographic study of the planning unit to identify traditional use areas.

Documentation of cultural sites and the ethnographic study should be coordinated with Native American entities.

Potential Measures:

- *Develop a cultural resources management plan for the planning unit.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

Assuming that the recommended surveys and ethnographic study identify cultural sites and traditional use areas within the planning unit, the Stewardship Council recommends developing a cultural resources management plan for the planning unit to ensure that cultural resources are provided adequate protection in the future. 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 the Pit 1 Project Historic Properties Management Plan (HPMP) and should be coordinated with Native American entities.

Endnotes

¹ The Recovery Plan for the Shasta crayfish states that exclusion of non-native signal crayfish from Spring Creek is a Priority 1 task, meaning that it is an action that must be taken to prevent extinction or irreversible decline of the species.

² Culvert replacement at the Spring Creek Road Bridge left cavities in culvert foundations that provide signal crayfish refuges and therefore make complete eradication of signal crayfish in Spring Creek impossible. The barrier project, called the Spring Creek Road Crossing Cavity-Filling Project, will fill the cavities and provide for non-native crayfish eradication surveys for the life of the Pit 1 Project License or until such surveys are determined to be no longer needed.

³ Crayfish are not believed to be in this section of the Fall River.