

BUTTE CREEK PLANNING UNIT

Feather River Watershed

Existing Conditions & Uses

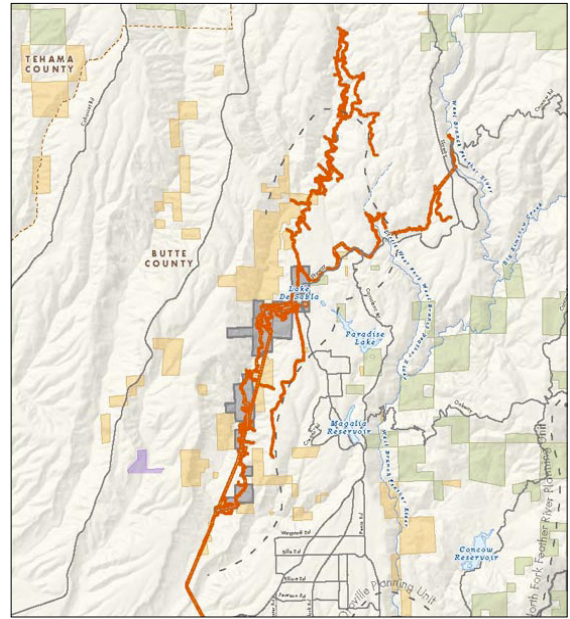
Overview

- Rugged, mostly inaccessible river canyon with important anadromous fish habitat
- Forested, accessible ridge-top parcels with recreation facilities
- 2,179 acres in Butte County; 1,986 acres outside and 193 acres inside the FERC boundary
- Part of the DeSabra-Centerville Project (FERC #803), currently in relicensing process

The Butte Creek Planning Unit contains two distinct yet connected areas: a canyon area and a ridge-top area. Most of the lands are on the slopes and floor of Butte Creek Canyon, through which Butte Creek flows (see Figure FR-13). Butte Creek drops from an elevation of nearly 1,300 feet at the upstream end of the planning unit to about 500 feet at the downstream end. Most of the canyon parcels are undeveloped with the exception of hydroelectric facilities. Apart from gated maintenance roads, there is little or no road access to most of the canyon lands, thus public access and use are minimal.



Butte Creek Canyon from DeSabra Powerhouse Rd



Butte Creek Planning Unit
Butte County

Most of the parcels in the canyon are adjacent to BLM lands managed under a special protected status as an Outstanding Natural Area/Area of Critical Environmental Concern (ACEC). The entire section of the creek that flows through the planning unit has been determined to be eligible for Federal Wild & Scenic River status based on scenic, geologic, and historic values. BLM manages the waters and public lands within one-quarter mile of the creek to protect the values and free-flowing character that led to this determination of eligibility.

About 150 acres are on the adjacent and relatively flat top of Paradise Ridge, at an elevation of about 2,800 feet. These lands include the 10-acre DeSabra Forebay. Two small isolated parcels are on the ridge a few miles northeast and north from the main block of land. The community of Magalia is on the ridge just to the south of the forebay, and the town of Paradise is a few miles further south along the ridge. The rapidly growing city of Chico (pop. 100,000) is about a 20-minute drive from the lower end of the planning unit.

Hydroelectric facilities within the planning unit are part of the DeSabra-Centerville FERC Project (#803) that is currently undergoing relicensing. Although less than 10% of the unit is within



Butte Creek 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
 - Fishing
 - Fish Barrier Dam
 - Gate
 - Parking
 - Powerhouse
 - Private Camp
 - 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

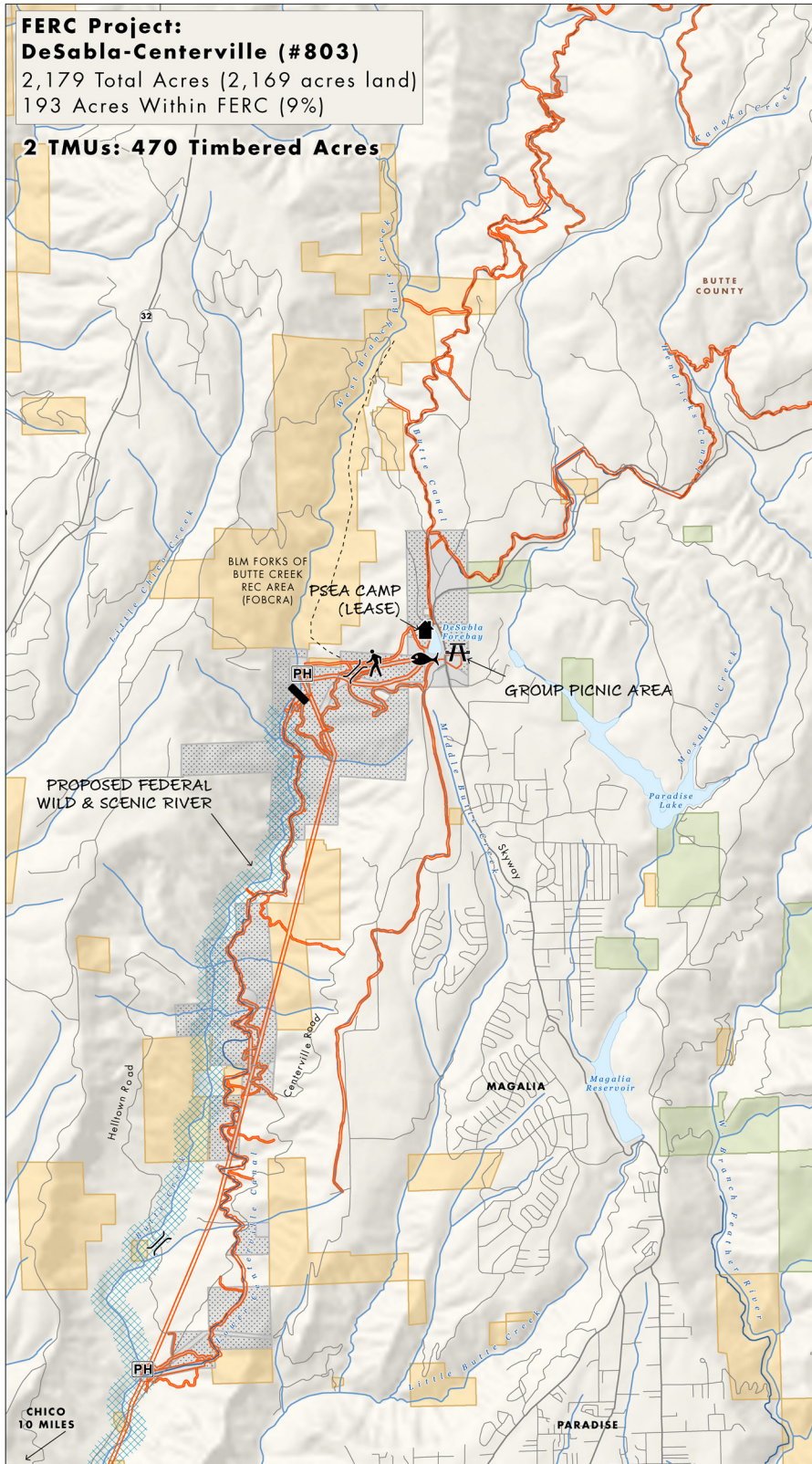


Figure FR-13

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the FERC boundary, nearly all of the canyon and ridge-top parcels are crossed by penstocks, canals, and flumes carrying water to DeSabra Forebay on the ridge and to the DeSabra and Centerville Powerhouses along the creek in the canyon. The relicensing process includes implementation of numerous studies focused on natural, cultural, and recreation resources and uses.

Fish, Plant, and Wildlife Habitat

The undeveloped canyon parcels provide a natural refuge for fish and wildlife. Aquatic habitat provided by Butte Creek is important for wild steelhead and spring-run chinook salmon, both Federally listed as threatened. The spring-run chinook salmon population that uses Butte Creek is the largest in the state. The creek occasionally has enough base flow to support fall-run chinook salmon. DFG manages Butte Creek as a catch-and-release fishery, with fishing permitted mid-November through mid-February.

Other more accessible but undeveloped parcels in the canyon and on the ridge also provide aquatic and diverse terrestrial habitats. Habitat types include riparian forest, oak and oak/pine woodlands, chaparral, and mixed conifer and pine forest. Associated resources include rare plants and primarily undisturbed habitat for common animal species such as black bear, deer, other mammals, birds, reptiles, and amphibians. Three species of special status plants have been recorded in the planning unit: Butte County morning-glory, checkerbloom, and fritillary. The planning unit may support a variety of other special status plants, bats, birds, and amphibians; relicensing studies will further document their potential existence and location.

Open Space

Both the undeveloped canyon and timbered ridge parcels provide open space values. Natural canyon viewsheds benefit recreation visitors as well as ridge residents, some of whose homes are perched on the edge of the ridges overlooking the

canyon. There is a threat of future development of these lands, particularly in the lower canyon area, where there is paved public road access and increasing rural residential development.

Outdoor Recreation

Existing recreation access to the canyon parcels and Butte Creek itself is very limited. Local whitewater boaters, anglers, and other recreationists are interested in improved recreation access in the canyon, particularly during the winter and spring whitewater boating and fishing seasons. Visitors were once able to reach the creek at the upper and lower ends of the canyon area via two gravel roads; however, recent gate closures now prevent such access.

DeSabra Powerhouse Road at the upper end of the canyon is a narrow PG&E-maintained road used for hydropower operations. The road winds about 3.5 miles down to DeSabra Powerhouse (and to the non-PG&E Forks of Butte Powerhouse immediately upstream) from Paradise Ridge, near DeSabra Forebay. A locked gate is about 1.5 miles from the top. A trailhead located a short distance above the gate provides access to a trail leading north into the adjacent BLM-managed Forks of Butte Creek Recreation Area.

Helltown Road crosses Butte Creek near the lower end of the canyon parcels and is the only road on the west side of the creek in the vicinity



DeSabra picnic grove

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Lower Centerville Canal

of the planning unit. The road becomes private beginning at a locked gate just before the road crosses to the west side of the creek. After crossing the creek over a one-lane bridge, the road winds north on the slopes above the creek for about 3.5 miles, terminating about one-quarter mile west of the creek.

The ridge area is much more accessible than the canyon, via the main ridge road (Skyway Road) and unpaved roads crossing the parcels. Fishing access is provided at the DeSabra Forebay, which is stocked with trout by DFG. The Pacific Service Employees Association (PSEA) operates Camp DeSabra on one side of the forebay, with cabins and associated facilities available for members' use. A picnic grove across Skyway Road from the forebay is available for group use by reservation.

Forest Resources

Less than one-fourth of the planning unit is included in two PG&E Timber Management Units (TMUs). Moderate timber management is focused on the mixed conifer, ridge portion of the DeSabra Powerhouse TMU, outside of designated recreation areas near the forebay. Management is salvage-only on the scattered pine stands of the much smaller Centerville Powerhouse TMU in the lower canyon. Forest resources in both TMUs are primarily managed for non-timber goals, such as fuel load reduction, public safety, viewshed protection, and protection

of hydropower operations. Wildfire threat is high in the wildland-urban interface areas of Paradise Ridge. Local communities are concerned about the danger posed by fires started in the canyon reaching residential areas on the canyon rim and ridge.

Agricultural Uses

No agricultural uses occur in this area. Planning unit lands have low potential for agriculture uses due to steep topography, non-contiguous parcels, need for stream protection, and potential conflict with recreation and adjacent rural residential development. There are no BLM grazing allotments in the vicinity of the planning unit.

Historic Resources

Few cultural resource surveys have been conducted in this area; therefore, no Native American cultural resources have been identified. However, the sites of former mining camps and gold mines are known to exist in and near the planning unit, and several historic cemeteries with burials dating back to the mining era are in the vicinity. The ditches and canals crossing the parcels date, in part, from the 19th century mining period, and the Centerville Powerhouse dates to 1900. These are among the oldest facilities in the PG&E system and are also considered historic. Relicensing studies include three cultural resource investigations that will provide more insight on cultural values present.

Stewardship Council Recommendations

The Stewardship Council recommends that the land and land uses in the Butte Creek Planning Unit be preserved and enhanced by focusing on habitat connectivity, semi-primitive recreation opportunities, and forest resources within the wildland-urban interface area. In presenting the Recommended Concept provided here, our objective is to preserve open space values,

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protect and enhance cultural and biological resources, provide additional public access and recreation opportunities, and enhance management of forest resources. We encourage close coordination with PG&E, BLM, DFG, and current FERC relicensing efforts for the area.

Objective: Preserve and enhance biological and cultural resources, provide additional public access and recreation opportunities, as well as enhance sustainable forestry management.

As shown on Table FR-7, the Stewardship Council has identified a number of preservation and/or enhancement measures that may contribute to the conservation management program for the Butte Creek 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 Butte Creek Planning Unit contains important aquatic habitat for anadromous fish, along with forest and riparian habitat for special status plant and animal species. 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 boundary, 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



Fishing at DeSabra Forebay

of preservation and enhancement measures for specific resources. Management of the property to preserve and enhance habitat will also include addressing noxious weeds. We encourage close coordination with BLM, DFG, and other resource-focused organizations working in the area. Habitat measures should be considered in conjunction with the fuels and forest management plans, as well as with any relevant FERC license required plans developed as part of relicensing.

Open Space

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

This concept would preserve open space by limiting new development to minor additional recreation facilities, located primarily in areas that have already been developed, as well as through permanent conservation easements. The canyon parcels would remain primarily undeveloped. 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.

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Outdoor Recreation

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

The Butte Creek Planning Unit currently provides for picnicking and fishing use on the ridge, but has the potential to also provide whitewater boating, fishing, and day use within the canyon. As shown in Figure FR-14, the Stewardship Council looks to enhance these opportunities by recommending access improvements for whitewater boating and fishing, in addition to improved day use facilities and recreation management. We recommend enhancements focused on providing seasonal access to the canyon, developing small parking, day use and whitewater boating facilities if access is gained and where needed, and enhancing public access at the PSEA camp. The Stewardship Council also recommends rehabilitating the group picnic area, developing a family picnic area, and developing a plan to address recreation use in areas outside the FERC boundary. We recommend these enhancements be considered in close cooperation with PG&E and DFG as well as upcoming FERC relicensing efforts and related recreation planning.

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 and fire management.

The forest resources within the Butte Creek Planning Unit are in and near a fire-prone wildland-urban interface area. 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, fuels management, and fire management and response. The fuels,

fire management and response, and forest management plans should be developed in conjunction with the wildlife and habitat management plan and should be consistent with any future FERC license required plans. We expect that all of these plans would be developed in coordination with adjacent landowners and BLM management and practices as appropriate.

Preservation of Historic Values

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

Though relicensing studies will document cultural resources within the FERC cultural resource study area, most of the planning unit will not be included in these studies. The Stewardship Council aims to support an increased understanding of cultural resources and ensure they are appropriately protected. To meet this objective, we recommend that cultural resource studies be conducted to understand the resources found at Butte Creek (particularly outside the FERC cultural resource study area where less information is available or will be provided by relicensing studies), and 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 the cultural agreements and plans developed as a result of relicensing.



Butte Creek at DeSabra Powerhouse

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

Planning Unit Objective: Preserve and enhance biological and cultural resources, provide additional public access and recreation opportunities, as well as 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 boundary to identify biological resources and enable their protection.• Develop a wildlife and habitat management plan for the planning unit, consistent with plans developed through project relicensing.• Encourage developing noxious weed management measures and/or plan in relicensing and extend measures to lands outside the FERC boundary.
Preservation of Open Space	Preserve open space in order to protect natural and cultural resources, viewsheds, 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 additional public access, and enhance recreation opportunities and management.	<ul style="list-style-type: none">• Assess the potential for providing controlled seasonal access to the DeSabla Powerhouse area to allow whitewater boaters and anglers to use the creek.**• Explore regaining seasonal access to the west side of Butte Creek via Helltown Road with private landowner.**• If access to Helltown Road is not regained, assess the potential for providing access to the east side of Butte Creek via the existing canal access road.**• If access via the canal road is feasible, construct a parking and small day use area at the end of the canal road and construct a trail to the creek.**• Provide a whitewater boating put-in/take-out at Helltown Road if access is regained from private landowner or near new day use area on the east side of the creek if canal road access is feasible.**• Rehabilitate the group picnic area across Skyway Road from DeSabla Forebay.**• Construct a family picnic area north of Skyway Road.**• Enhance public access to PSEA camp at DeSabla Forebay.**• Develop a recreation management plan for areas outside the FERC boundary.
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 and fire 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.• Encourage developing fuels management measures and/or plan in relicensing and extend measures to lands outside the FERC boundary to ensure long-term forest health and reduce fuel loading and fire hazard.• Develop a fire management and response plan for the planning unit to ensure fire preparedness.
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 FERC Project APE to identify cultural resources and enable their protection.• Conduct an ethnographic study of lands outside the FERC boundary to identify traditional use areas.• Develop a cultural resources management plan for lands outside the FERC Project APE consistent with the cultural agreements and plans developed as a result of project relicensing.• Coordinate with Native American entities when conducting cultural resource measures.

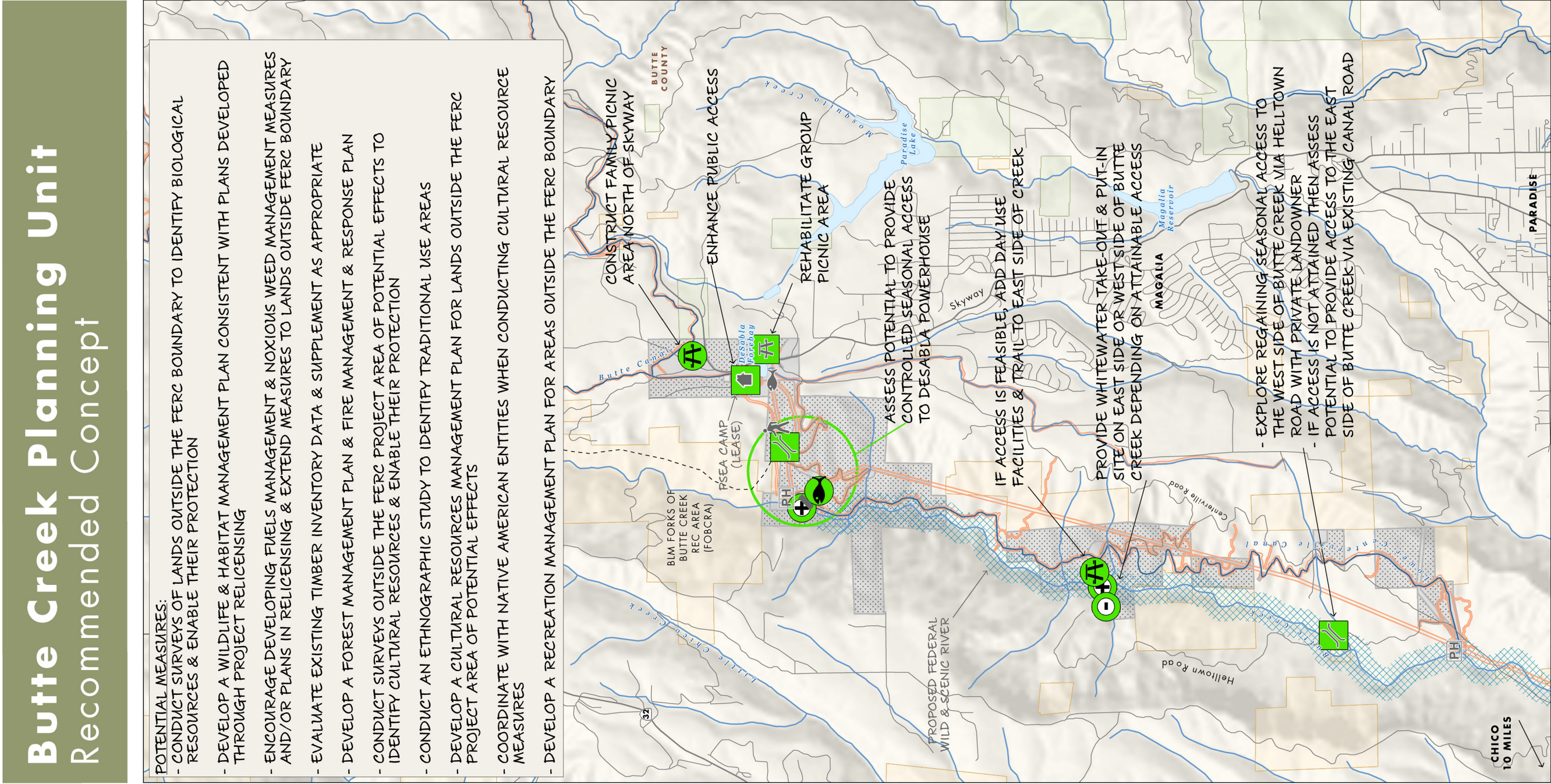
* This is a set of recommended possibilities for the preservation and enhancement of BPV’s, and is not intended to be a set of requirements for future land management.

** Denotes site specific measure.



Figure FR-14
FR-64 LCP Volume II

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Butte Creek Planning Unit

Outdoor Recreation

The recommended recreation measures focus on the restoration and enhancement of public access and a limited amount of semi-primitive outdoor recreation in the canyon (day use, hiking, angling, and whitewater boating), as well as enhancement of facilities and recreation opportunities on the ridge. The primary goal is to explore the potential for improved recreation access in the canyon while continuing to protect the important Butte Creek fishery and within the constraints of hydropower operations, security, and public safety needs. Local communities and specific user groups such as whitewater boaters and anglers have expressed interest in improved access.

Potential Measures:

- *Assess the potential for providing controlled seasonal access to the DeSabra Powerhouse area to allow whitewater boaters and anglers to use the creek.*
- *Explore regaining seasonal access to the west side of Butte Creek via Helltown Road with private landowner.*
- *If access to Helltown Road is not regained, assess the potential for providing access to the east side of Butte Creek via the existing canal access road.*
- *If access via the canal road is feasible, construct a parking and small day use area at the end of the canal road and construct a trail to the creek.*
- *Provide a whitewater boating put-in/take-out at Helltown Road if access is regained from private landowner or near new day use area on the east side of the creek if canal road access is feasible.*

Assessment of the potential for re-establishment of formerly available access to Butte Creek would include access at DeSabra Powerhouse via the powerhouse access road owned by PG&E. Whitewater boating guidebooks describe this location as the start of the whitewater boating run in the canyon, and it would also provide angling access. Public access to the private Helltown Road, which crosses Butte Creek near the lower end of the planning unit, would restore walk-in access to a parcel on the west side of Butte Creek for boaters and anglers. Alternatively, use of a PG&E canal road would provide access on the opposite side of the creek in the same area. This area of the creek, referred to as Whiskey Flat, is the end of an expert-level whitewater run that starts at DeSabra Powerhouse. It is also the start of a moderately difficult whitewater run extending downstream to Centerville Powerhouse or Centerville Bridge. Priority would be placed on re-establishing access to Helltown Road; use of the canal access road for recreation access would not be pursued if seasonal access to Helltown Road could be achieved. Parking and whitewater put-in and take-out sites would be designated in conjunction with these restored and new access points, if access is obtained. A small parking and day use area with basic picnic and sanitary facilities would be provided at the terminus of the canal road.

Several known constraints to providing public access on the above roads would need to be addressed. Reopening DeSabra Powerhouse Road to provide access to the creek at the upper end of the canyon would require that past problems with parked vehicles blocking access to the powerhouse, vandalism and dumping, and other operations, security, and public safety issues be

addressed satisfactorily. According to PG&E, the road is not designed to a standard that will safely accommodate public use, so road improvements would also be necessary. The upper 100 feet of the road crosses private land with an easement that allows only PG&E use. (However, the road is currently used by the public to reach the Forks of Butte Creek trailhead.) Because the road also provides access to the Forks of Butte Creek Project land and facilities (powerhouse and switchyard), security concerns related to those facilities would also need to be considered. Similarly, use of the PG&E canal/flume access road on the east side of the creek would probably require improvements to allow public use and to protect the water conveyance facilities (canal/flume) and would need to be evaluated for operational security requirements.

The private owner of Helltown Road beyond the gate may not be willing to permit public access, and may consider issues such as security, fire risk, and potential depreciative behavior by the public to preclude allowing public access. Also, the condition of the road and the bridge over Butte Creek is not known. The Stewardship Council recommends only exploring the potential for future public use of Helltown Road with the owner in cooperation with boater groups, anglers and others interested in access, if such use is feasible; no direct management measures are recommended since the road is not on planning unit lands.

Security and related concerns may be reduced by limiting public access to these roads to specific times of the year — angling and whitewater boating seasons, for example — as well as by maintaining control of access with gate closures at night. Also, vehicle access to whitewater put-in and take-out locations at DeSabra Powerhouse and road-end parking areas in the canyon could be further limited to a maximum number of vehicles or to shuttle vehicles only, with use of the road monitored during the season to ensure that restrictions are followed, under an advance arrangement with user groups. FERC approved such part-time access to Butte Creek near the DeSabra Powerhouse, following a schedule recommended by DFG, during the construction of the Forks of Butte Creek Project in the later 1980s.

Any changes in recreation use in the canyon would require protection of anadromous fish and their habitat in compliance with requirements conferred by their listed status. It is expected that relicensing studies focusing on recreation and the Butte Creek fishery would identify the potential for recreation disturbance to fish habitat and fish, and seasonal variation in vulnerability of the resource. This information will shed light on the potential for increased recreation access and use in the context of fishery needs and requirements for protection.

The semi-primitive recreation emphasis for the canyon lands is intended to be consistent with BLM management of the Forks of Butte Creek Recreation Area, which would preserve the potential for collaborative management of the canyon's resources with BLM. Most of the canyon parcels are adjacent to BLM lands. BLM management direction for the area, as set forth in the most recent plan, focuses on continued semi-primitive recreation management along with designation of the area as an Outstanding Natural Area/Area of Critical Environmental Concern. Collaborative management could occur under a coordinated resource management plan developed with BLM, a management model used by BLM for other lands in the region. Although increased disturbance of fish and wildlife may result from additional recreation, the expectation is that impacts would be minor. Recommended management plans would include protection of the fishery as a top priority. Recommendations regarding access and necessary support facilities would also need to be evaluated for compatibility with the Wild and Scenic River designation eligibility of the segment of Butte Creek down to Helltown Bridge.

Potential Measures:

- *Rehabilitate the group picnic area across Skyway Road from DeSabra Forebay.*
- *Construct a family picnic area north of Skyway Road.*

Opportunities exist on the ridge parcels to further serve the recreation needs of the growing ridge communities. Therefore, the Stewardship Council recommends providing new and enhanced developed recreation sites for picnicking and angling on the ridge parcels to increase recreation opportunities in the growing ridge area. At DeSabra Forebay, the emphasis would be on improving the aesthetic quality of the fishing access areas on the dam and shoreline, protecting the shoreline from impacts, and providing shade. The existing group picnic facility across the road from the forebay would be rehabilitated to restore outdated and dilapidated facilities. A small family picnic area would be provided in the mature mixed conifer timberlands to the north to complement the group picnic area, whose use requires a reservation and payment of a fee.

Potential Measure:

- *Enhance public access to PSEA camp at DeSabra Forebay.*

The Pacific Service Employees Association's (PSEA) Camp DeSabra provides several cabins and associated facilities on the west shore of DeSabra Forebay for the use of their members (PG&E employees, retirees, and family members). The Stewardship Council recommends developing a program to provide public access to the PSEA cabins, thereby similarly extending the benefit of those resources to the general public.

Potential Measure:

- *Develop a recreation management plan for areas outside the FERC boundary.*

A recreation plan for the DeSabra Centerville Project will likely be developed as a result of the ongoing FERC Project relicensing. The DeSabra Forebay, group picnic area, and DeSabra Powerhouse area are within the FERC boundary, and so would be addressed within that plan. However, over 90% of the planning unit is outside the FERC boundary. Therefore, the Stewardship Council recommends developing a recreation plan that addresses planning unit lands outside the FERC boundary as a companion to any future FERC license required recreation plan. Any measures recommended for areas within the FERC boundary would need to be consistent with any future FERC license required recreation plan.

Fish, Plant, and Wildlife Habitat

The Stewardship Council recommends habitat protection measures focused on aquatic habitat in Butte Creek for special status anadromous fish (wild spring-run chinook salmon and steelhead trout). The primary goal is to protect the diverse plant and wildlife habitat present in this rapidly developing region while continuing to limit public access to minimize impacts on the anadromous fishery.

Potential Measure:

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

Though part of the planning unit lies within the FERC boundary and would therefore be incorporated into any habitat and species studies conducted for relicensing, it is likely that lands

outside the FERC boundary would not be studied as part of relicensing. Therefore, the Stewardship Council recommends conducting surveys of lands outside the FERC boundary to identify biological resources and thus gain a broader understanding of existing habitats and species to better enable their protection. Such information would be valuable in making future management decisions. Lands outside the FERC boundary include most lands in Butte Creek Canyon not associated with project roads, powerhouses, canals/flumes, penstocks, and related features.

Potential Measure:

- *Encourage developing noxious weed management measures and/or plan in relicensing and extend measures to lands outside the FERC boundary.*

A project relicensing study will identify and map noxious weeds on Federal lands within the FERC boundary and adjacent planning unit lands. To enhance habitat for native and special status plants, the Stewardship Council recommends encouraging the development of noxious weed management measures and/or a noxious weed management plan in relicensing and then extending any developed measures or plan to lands outside the FERC boundary. If noxious weed management measures or a plan are not developed in relicensing, then a plan should be developed for the entire planning unit.

Potential Measure:

- *Develop a wildlife and habitat management plan for the planning unit, consistent with plans developed through project relicensing.*

To provide a comprehensive vision for habitat protection and enhancement within the planning unit, the Stewardship Council recommends creating 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 goals and objectives for habitat and species, as well as measures to enhance and protect habitat for both plant and wildlife species. Monitoring of species and/or habitats would also be developed as 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. The wildlife and habitat management plan should also be consistent with relevant FERC license required plans developed as part of the project relicensing.

Sustainable Forestry

Potential Measure:

- *Evaluate existing timber inventory data and supplement as appropriate.*

Although most of the planning unit is forested with hardwood and conifer trees, less than one-fourth of the planning unit is included in the two PG&E Timber Management Units (TMUs). Inventory data exist for these TMUs but not for other forested areas. Therefore, the Stewardship Council recommends an evaluation of existing timber inventory data and supplementation of the data as appropriate to provide more complete data coverage.

Potential Measure:

- *Encourage developing fuels management measures and/or plan in relicensing and extend measures to lands outside the FERC boundary to ensure long-term forest health and reduce fuel loading and fire hazard.*

Lands in the planning unit have high fire risk and fire hazard reduction is of high importance to local communities. To reduce fuel loading and fire risk, the Stewardship Council recommends encouraging the development of fuels management measures and/or plan in relicensing and then extending the measures to lands outside the FERC boundary (recognizing that most of the planning unit is outside the FERC boundary). If fuels management measures and/or a plan are not developed in relicensing, then a plan should be developed for the entire planning unit.

Potential Measure:

- *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 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 watershed management, supporting the enhancement of other BPVs over the long term. The forest management plan would be compatible with adjacent USFS and BLM forest management where appropriate to maintain habitat connectivity. Development of the forest management plan should be coordinated with development of the wildlife and habitat, noxious weed, and fuels management plans.

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 included to protect watercourses 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:

- *Develop a fire management and response plan for the planning unit to ensure fire preparedness.*

As previously mentioned, the planning unit includes lands near residential areas on Paradise Ridge and in the lower Butte Creek Canyon, as well as recreation facilities near DeSabra Forebay that receive heavy recreation use during certain times of the year. Therefore, the Stewardship Council recommends developing a fire management and response plan to ensure fire preparedness and enhance fire prevention. The plan would include appropriate actions to take when a fire occurs, as well as reporting procedures that would be useful for the local communities.

Preservation of Historic Values

Potential Measures:

- *Conduct surveys outside the FERC Project APE to identify cultural resources and enable their protection.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

Cultural resource investigations are being conducted within the DeSabra-Centerville Project area for relicensing. Though the area within the FERC Project Area of Potential Effects (APE) will be thoroughly documented, it is unclear the extent to which the area outside the APE has been studied, possibly for timber harvests and other activities. With a potential for cultural sites outside the APE, but within the planning unit, the Stewardship Council recommends conducting surveys outside the DeSabra-Centerville Project APE 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 FERC boundary to identify traditional use areas.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

There may also be a potential for ethnographic uses by Native Americans within the planning unit. Relicensing studies will include documentation of traditional cultural properties within the FERC Project APE. The Stewardship Council recommends conducting an ethnographic study of lands outside the FERC boundary to identify traditional use areas outside the FERC boundary. The ethnographic study should be coordinated with Native American entities.

Potential Measures:

- *Develop a cultural resources management plan for lands outside the FERC Project APE consistent with the cultural agreements and plans developed as a result of project relicensing.*
- *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, the Stewardship Council recommends developing a cultural resources management plan for the area outside the DeSabra-Centerville Project APE to ensure that cultural resources are adequately protected 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 agreements and plans developed in project relicensing and should be coordinated with Native American entities.

Open Space

Potential Measure:

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

The undeveloped canyon parcels would continue to be preserved as open space, with only minor new recreation development. Most of the ridge-top parcels would remain in timber. Viewsheds and open space would be further protected through permanent conservation easements. The undeveloped setting of former mining camps and mines scattered in the planning unit would be protected through open space preservation.

Agricultural Uses

None recommended.