

KILARC RESERVOIR PLANNING UNIT

Cow-Battle Creek Watershed

Existing Conditions & Uses

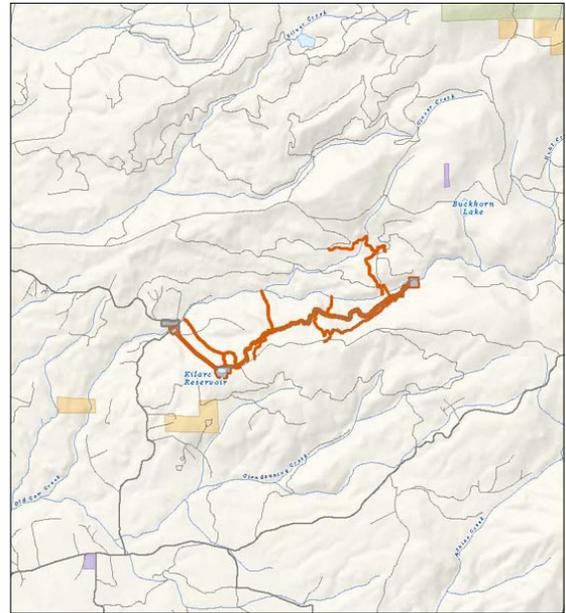
Overview

- Canal, small forebay, and powerhouse surrounded by private land in a rural setting
- 111 acres in Shasta County; 16 acres outside the FERC boundary and 95 acres inside the FERC boundary
- Part of the Kilarc-Cow Creek Project (FERC #606); License expired March 2007

The Kilarc Reservoir Planning Unit is located in Shasta County, approximately two miles from the rural community of Whitmore and 25 miles east of the City of Redding. The planning unit is dominated by infrastructure associated with the Kilarc-Cow Creek Project (FERC #606), specifically facilities associated with the Kilarc portion of the project which are located on Old Cow Creek. Hydropower infrastructure in the planning unit includes the Kilarc Main Canal Diversion Dam, the 3.65-mile Kilarc Main Canal, the four-acre Kilarc Forebay (Reservoir), penstock, and Kilarc Powerhouse (see Figure CB-3). The vast majority of the planning unit lands, all but 16 acres north of the powerhouse, are located within the FERC boundary. The Kilarc Reservoir area is entirely surrounded by private



Kilarc Forebay



Kilarc Reservoir Planning Unit
Shasta County

property, some of which was owned by PG&E and sold to Roseburg Resources Company, a timber company. There are conifer plantations surrounding the forebay portion of the planning unit.

Decommissioning Process

The current FERC license for the Kilarc-Cow Creek Project expired on March 27, 2007. PG&E filed a Notice of Intent to File Application for a New License for the project in early 2002 and started the relicensing process. However, PG&E signed the Kilarc-Cow Creek Project Agreement in 2005 with resource agencies and other project stakeholders. PG&E will seek to decommission the Kilarc-Cow Creek FERC Project, through the process and timeline to be submitted to FERC in a surrender application. PG&E will continue to operate the project under the terms and conditions of the existing license until the license expires, and then on annual licenses issued by FERC until the project is decommissioned. Currently, PG&E is operating the Kilarc-Cow Creek Project under a one year license extension, issued by FERC, until March 31, 2008.

Kilarc Reservoir Planning Unit Existing Conditions



- PG&E lands Preliminary Designated for Retention
- PG&E lands Preliminary Designated for Disposition
- BIA BIA
- BIM BIM
- BOR BOR
- DOD DOD
- NPS NPS
- Other/NGO Other/NGO
- Federal Wilderness Federal Wilderness
- Boat Launch Boat Launch
- Campground Campground
- Dam Dam
- Day Use Day Use
- Feature of Importance Feature of Importance
- Fishing Fishing
- Fish Barrier Dam Fish Barrier Dam
- Gate Gate
- Lodging Lodging
- Non-Motorized Boating Non-Motorized Boating
- Parking Parking
- Powerhouse Powerhouse
- Private Camp Private Camp
- Ranch Ranch
- Trailhead Trailhead
- Whitewater PutIn/TakeOut Whitewater PutIn/TakeOut
- FERC Boundary FERC Boundary
- Stream / River Stream / River
- Canal / Ditch Canal / Ditch
- Pipeline Pipeline
- Highly Valued Stream Highly Valued Stream
- Primary Roads Primary Roads
- Secondary Roads Secondary Roads
- OHV Roads OHV Roads
- Trail Trail

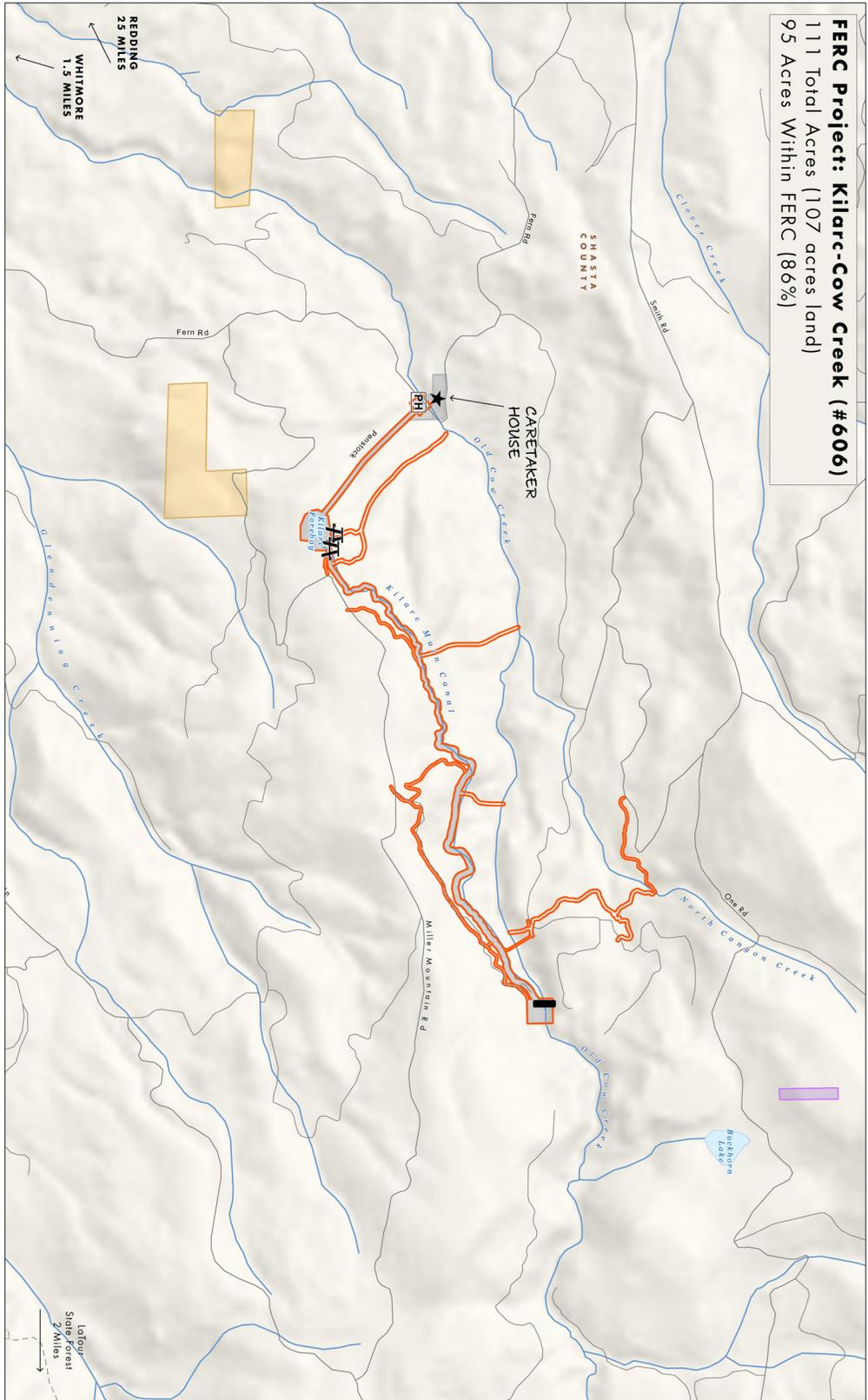


Figure CB-3

KILARC RESERVOIR PLANNING UNIT

Cow-Battle Creek Watershed

Fish, Plant, and Wildlife Habitat

The Kilarc Reservoir Planning Unit provides limited aquatic and riparian habitat along and within the main canal, Old Cow Creek, and the forebay. Because this FERC Project has not been relicensed in many years, specific (i.e., confirmed) habitat and species information for the planning unit is very limited. Bald eagles have been observed roosting at the forebay, and American peregrine falcon, northern goshawk, Lawrence's goldfinch, and Vaux's swift may forage and breed nearby. Roosting opportunities are available for bats in the Kilarc Powerhouse and tunnel portion of the main canal. Two special status plants may occur at the forebay, Bogg's lake hedge-hyssop and four angles spike rush.

As for aquatic species, rainbow and brown trout are found in the canal and forebay along with Sacramento sucker, Sacramento pikeminnow, speckled dace, and riffled sculpin. DFG stocks Kilarc Forebay with rainbow trout. Along with resident rainbow trout, Central Valley fall-run chinook salmon and steelhead trout (both special status species) are found in Old Cow Creek. Whitmore Falls, downstream of the planning unit, was previously thought to be a barrier to anadromous fish passage; however, the USFWS and National Oceanic and Atmospheric Administration (NOAA) now believe that Whitmore Falls is passable for steelhead trout. Old Cow Creek may also provide habitat for foothill yellow-legged and California red-legged frogs, both special status species. Kilarc Forebay contains habitat for the northwestern pond turtle, a Federal species of concern. The need for analysis of species and habitats may be addressed in the decommissioning process.

Open Space

Open space values are found throughout the planning unit due to a lack of development, steepness of the area, and limited recreation facilities.

Outdoor Recreation

Recreation within the planning unit mainly consists of fishing and picnicking use at Kilarc Forebay. There are two developed day use areas on the northeast side of the forebay, consisting of eight picnic tables each with a restroom in between the two picnic areas. Visitors can also walk around the reservoir on a footpath. The forebay sites are open year-round and receive mostly local recreation use. Fishing for trout is popular in May, and there is light use of the day use areas outside of fishing season. Fishing also likely occurs within Kilarc Main Canal and at the powerhouse. Boating and swimming are prohibited in the forebay by Shasta County ordinance. Lassen National Forest and the LaTour State Forest and are located a few miles east of the planning unit. These public recreation areas provide a larger variety and quantity of recreation activities and facilities than those available within the planning unit and thus receive greater use.

Forest Resources

There are very limited forest resources on planning unit lands, and no PG&E Timber Management Units (TMUs), though the area surrounding the planning unit is forested and commercially harvested. The limited forest resources consist of mixed conifer forest of ponderosa pine, Douglas-fir, incense-cedar, and California black oak.



Mixed oak woodland at Kilarc Forebay

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Agricultural Uses

There are no agricultural uses on planning unit lands, and the lands have low potential for agriculture due to very limited acreage not occupied by hydropower facilities and steep terrain. Some grazing does occur on private lands within the surrounding area.

Historic Resources

The Kilarc Reservoir Planning Unit lies within the ancestral territory of the Central Yana people. Skirmishes between Yana populations and European settlers led to massacres between 1847 and 1867, leaving the Yana population at less than 100 individuals.¹ The Kilarc Hydroelectric Project was constructed in 1903-04 to supply electricity for copper mining activities, and was acquired by PG&E in 1919 from the Northern California Power Company.

There are several known cultural sites within the Kilarc-Cow Creek Project area, dating back to Native American and historical uses of the area. Three cultural sites have been recorded, though an additional three sites have not been formally recorded but are likely within or near planning unit lands. Most of the five cultural resource studies previously conducted for the FERC Project were performed near Kilarc Powerhouse, penstock, and forebay, and were not performed to current standards. Documentation of the presence of and impacts to cultural resources may be addressed in the decommissioning process.

Stewardship Council Recommendations

The Stewardship Council recommends that the land and land uses at the Kilarc Reservoir Planning Unit be preserved and enhanced by focusing on the importance of the recreation resources to the local community and the need to provide ongoing protection to natural and cultural resources. In presenting the Recommended Concept provided here, our



Kilarc Powerhouse outflow

objective is to enhance the recreation experience at Kilarc Reservoir in coordination with any decommissioning activities while also enhancing biological resources and ensuring protection of cultural resources. All recommended measures must be coordinated with the decommissioning process to avoid inconsistent or duplicative recommendations. When the decommissioning process is completed, the planning unit will need to be re-evaluated based on the outcome, in close coordination with community stakeholders and all interested parties.

Objective: Preserve and enhance biological resources, preserve cultural resources, and enhance education and recreation opportunities.

As shown on Table CB-2, the Stewardship Council has identified a number of preservation and/or enhancement measures that may contribute to the conservation management program for the Kilarc Reservoir 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.

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Fish, Plant, and Wildlife Habitat

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

Although limited in area, the planning unit likely hosts several special status plant and wildlife species. In order to preserve and enhance the habitat and resources found here, the Stewardship Council recommends developing a noxious weed management plan for the planning unit and measures to enhance bank stability and reduce erosion and sedimentation. We also recommend assessing the planning unit for potential restoration of bare ground areas and redundant, where most recreation use and impacts occur.

Open Space

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

This concept would preserve open space values by limiting new development to signage and ADA 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: Assess recreation potential in order to provide additional education and recreation opportunities.

The fishing and picnicking recreation opportunities at Kilarc Forebay are important to the local community. As shown in Figure CB-4, the Stewardship Council looks to enhance these opportunities by recommending additional recreation study and monitoring. We recommend enhancements focused on assessing the potential for recreation opportunities throughout the



Picnic area at Kilarc Forebay Day Use Area #1

planning unit and installing signage to enhance users' knowledge and understanding of the area's historical resources and role in Shasta County's history. The Stewardship Council also recommends monitoring recreation throughout the planning unit and increasing opportunities for youth education and recreation.

Sustainable Forestry

Objective: Develop and implement forestry practices in order to ensure appropriate fuel load management.

There are forest resources in the planning unit surrounding recreation facilities, as well as conifer plantations immediately adjacent to the planning unit, planted as a result of a large fire. To reduce fire risk on both planning unit and adjacent lands, the Stewardship Council recommends development of practices to manage fuels within and along the perimeter of the planning unit, in coordination with adjacent landowners.

Preservation of Historic Values

Objective: Document and manage cultural resources in order to ensure their protection if discovered in the future.

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Documentation of the presence of and impacts to cultural resources will likely be addressed in the decommissioning process. The Stewardship Council recommends that any cultural resources found in the future be protected through permanent conservation easements that include cultural resource protection measures. These measures would describe the process for addressing any cultural materials found during ground-disturbing activities. Development of appropriate cultural resource protection measures would be coordinated with Native American entities.

Endnote

¹ The Pit River Tribe now represents the Yana people, as some members of the Tribe are of Yana decent.

Table CB-2 Objectives to Preserve and/or Enhance – Recommended Concept

Planning Unit Objective: Preserve and enhance biological resources, preserve cultural resources, and enhance education and recreation opportunities.		
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"> • Develop a noxious weed management plan for the planning unit. • Stabilize the shoreline to reduce erosion and sedimentation. • Assess the planning unit for potential restoration of bare ground areas and redundant trails.
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	Assess recreation potential in order to provide additional education and recreation opportunities.	<ul style="list-style-type: none"> • Assess the potential for recreation opportunities throughout the planning unit. • Monitor recreation use throughout the planning unit. • Install signage regarding the history of the powerhouse and hydroelectric project at the Kilarc Powerhouse and day use areas.** • Assess the potential for youth program opportunities.
Sustainable Forestry	Develop and implement forestry practices in order to ensure appropriate fuel load management.	<ul style="list-style-type: none"> • Coordinate with adjacent landowners to manage fuels within and along the perimeter of the planning unit.
Agricultural Uses		None proposed.
Preservation of Historic Values	Document and manage cultural resources in order to ensure their protection if discovered in the future.	<ul style="list-style-type: none"> • Incorporate cultural resource protection measures in conservation easements to protect any cultural resources found in the future in coordination with Native American entities.

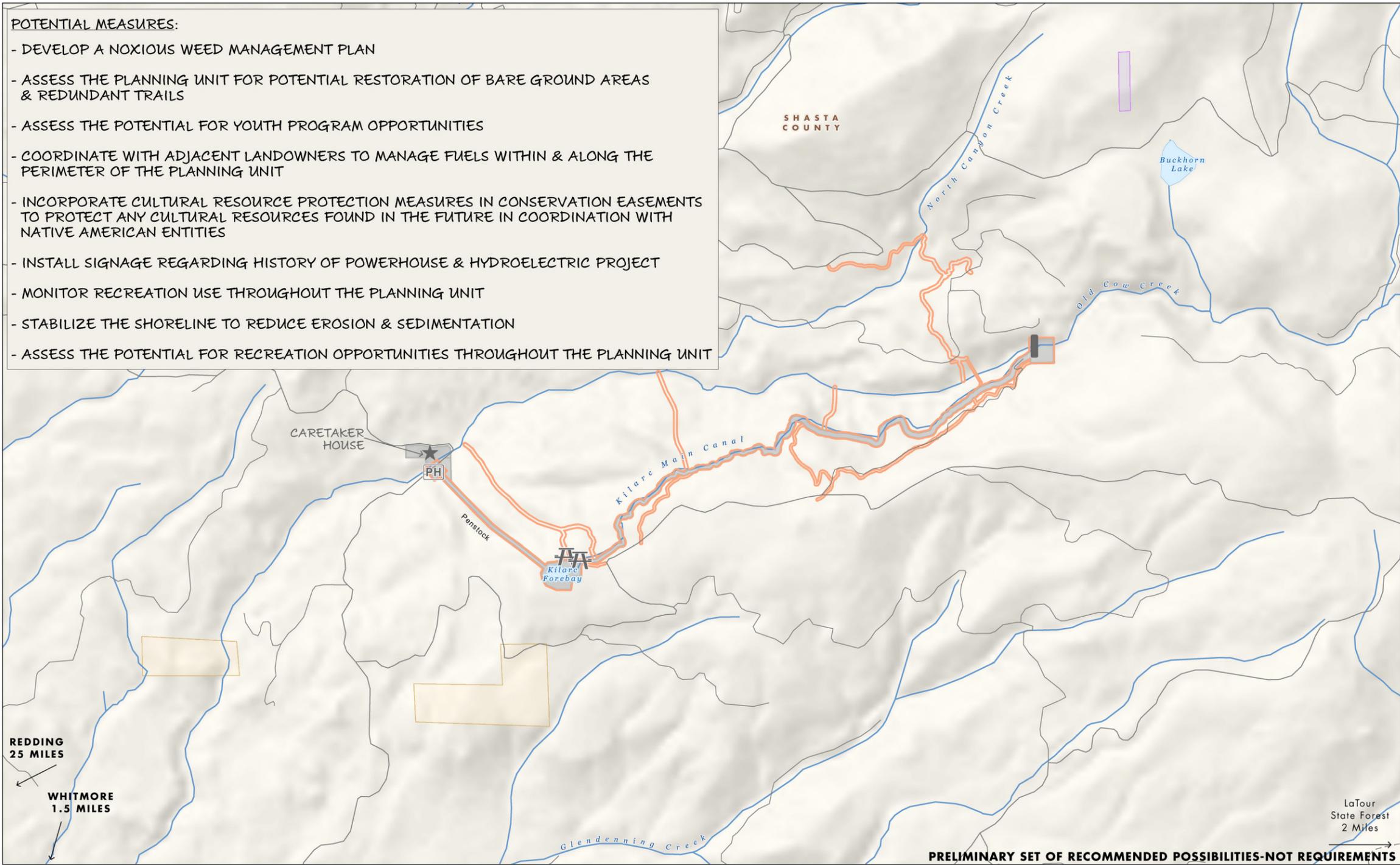
* This is a set of recommended possibilities for the preservation and enhancement of BPV's, and is not intended to be a set of requirements for future land management.

** Denotes site specific measure.

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Kilarc Reservoir Planning Unit Recommended Concept



- POTENTIAL MEASURES:**
- DEVELOP A NOXIOUS WEED MANAGEMENT PLAN
 - ASSESS THE PLANNING UNIT FOR POTENTIAL RESTORATION OF BARE GROUND AREAS & REDUNDANT TRAILS
 - ASSESS THE POTENTIAL FOR YOUTH PROGRAM OPPORTUNITIES
 - COORDINATE WITH ADJACENT LANDOWNERS TO MANAGE FUELS WITHIN & ALONG THE PERIMETER OF THE PLANNING UNIT
 - INCORPORATE CULTURAL RESOURCE PROTECTION MEASURES IN CONSERVATION EASEMENTS TO PROTECT ANY CULTURAL RESOURCES FOUND IN THE FUTURE IN COORDINATION WITH NATIVE AMERICAN ENTITIES
 - INSTALL SIGNAGE REGARDING HISTORY OF POWERHOUSE & HYDROELECTRIC PROJECT
 - MONITOR RECREATION USE THROUGHOUT THE PLANNING UNIT
 - STABILIZE THE SHORELINE TO REDUCE EROSION & SEDIMENTATION
 - ASSESS THE POTENTIAL FOR RECREATION OPPORTUNITIES THROUGHOUT THE PLANNING UNIT

PRELIMINARY SET OF RECOMMENDED POSSIBILITIES-NOT REQUIREMENTS

<ul style="list-style-type: none"> 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 	<p>Concept Features</p> <ul style="list-style-type: none"> Modify Existing Feature New Feature Trail 	<p>Existing Features</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> FERC Boundary Stream / River Canal / Ditch Pipeline Highly Valued Stream Primary Roads Secondary Roads OHV Roads Trail
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All symbols may not appear on the map

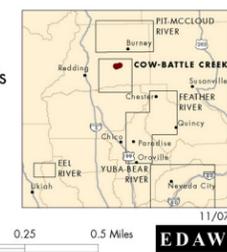


Figure CB-4
CB-16 LCP Volume II

Kilarc Reservoir Planning Unit

All recommended measures must be coordinated with the decommissioning process to avoid inconsistent or duplicative recommendations. When the decommissioning process is completed, the planning unit will need to be re-evaluated based on the outcome, in close coordination with community stakeholders and all interested parties.

Fish, Plant, and Wildlife Habitat

Potential Measure:

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

There is a known exotic species (sweet pea) within the planning unit, and there is potential for noxious weed infestations through recreation use. Currently, there is no plan for noxious weed management within the planning unit. Therefore, the Stewardship Council recommends developing a noxious weed management plan for the planning unit to enhance habitat for native species. The noxious weed management plan should be coordinated with existing PG&E noxious weed efforts.

Potential Measure:

- *Stabilize the shoreline to reduce erosion and sedimentation.*

There are some eroding banks along the waters edge. Tree roots are exposed in these areas, erosion is likely contributing sediment into the water, and shoreline vegetation has been reduced or eliminated. To enhance bank stability and reduce erosion and sedimentation, the Stewardship Council recommends stabilizing the shoreline.

Potential Measure:

- *Assess the planning unit for potential restoration of bare ground areas and redundant trails.*

There are also some compacted and denuded land areas as well as redundant trails that could be enhanced to provide additional habitat, reduce compaction, and enhance the recreation setting. Therefore, the Stewardship Council recommends assessing the planning unit for potential restoration of bare ground areas and redundant trails.

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 and prohibited uses to maintain open space values, including the level of uses allowed. Recommendations do not include development of any new sites and are therefore not expected to decrease the scenic quality of the viewsheds.

Outdoor Recreation

Potential Measure:

- *Assess the potential for recreation opportunities throughout the planning unit.*

Currently, there are two developed picnic areas at Kilarc Forebay. There could be potential for other recreation opportunities within the planning unit beyond picnicking, such as ADA fishing. Therefore, the Stewardship Council recommends assessing the potential for recreation opportunities throughout the planning unit.

Potential Measure:

- *Monitor recreation use throughout the planning unit.*

Recreation use within the planning unit is generally focused at the forebay, but it appears that recreation use outside of developed facilities is not being monitored. Recreation users at the forebay can walk along the main canal and fish from its edges. Recreationists can also fish in Old Cow Creek near the powerhouse. In general, fishing below a powerhouse is very popular (e.g., Butt Valley, Hat Creek). The Stewardship Council recommends monitoring recreation use to determine if there are safety issues, if additional facilities or signage are needed, or if impacts from recreation uses are occurring on other resources. Prior to monitoring recreation use, a recreation inventory and assessment should be conducted to establish a baseline from which monitoring results can be compared.

Potential Measure:

- *Install signage regarding the history of the powerhouse and hydroelectric project at the Kilarc Powerhouse and day use areas.*

The Kilarc-Cow Creek Hydroelectric Project is over 100 years old and has an interesting past, including being associated with the copper mining industry in Shasta County and part of the growth of the City of Red Bluff. The Kilarc Powerhouse is one of the few remaining old stone powerhouses in California. The Stewardship Council recommends installing signage regarding the history of the Kilarc Powerhouse and Kilarc-Cow Creek Hydroelectric Project at the day use areas and Kilarc Powerhouse to enhance users' knowledge and understanding of the area's historical resources and role in Shasta County's history. This would enhance the recreation experience and possibly increase users' appreciation and desire for protection of historical resources.

Potential Measure:

- *Assess the potential for youth program opportunities.*

The presence of existing recreation facilities and a nearby community offers an opportunity to educate youth on a variety of topics such as wildlife, fishing, and cultural resources. Therefore, the Stewardship Council recommends assessing the potential for youth programs, possibly in conjunction with local schools. Programs could teach youth about topics such as aquatic and botanical resources, including threatened and endangered species, cultural resources, and historical use of the area.

Sustainable Forestry

Potential Measure:

- *Coordinate with adjacent landowners to manage fuels within and along the perimeter of the planning unit.*

After a fire about 10 years ago, plantations were developed up to the property line around the Kilarc Forebay. Due to the minimal acreage around the forebay within the planning unit, there is very little buffer between recreation use and the plantations. There are likely forest resources surrounding the Kilarc Main Canal, and there are forest resources around the powerhouse on both the planning unit and adjacent property. To reduce fire risk on both planning unit and adjacent lands, the Stewardship Council recommends coordinating with adjacent landowners to manage fuels within and along the perimeter of the planning unit.

Agricultural Uses

None recommended.

Preservation of Historic Values

Potential Measure:

- *Incorporate cultural resource protection measures in conservation easements to protect any cultural resources found in the future in coordination with Native American entities.*

The Stewardship Council also recommends protecting any cultural resources found in the future through permanent conservation easements that include cultural resource protection measures. These measures would describe the process for addressing any cultural materials found during ground-disturbing activities. Development of appropriate cultural resource protection measures would be coordinated with Native American entities.