

NORTH FORK MOKELOMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed

Existing Conditions & Uses

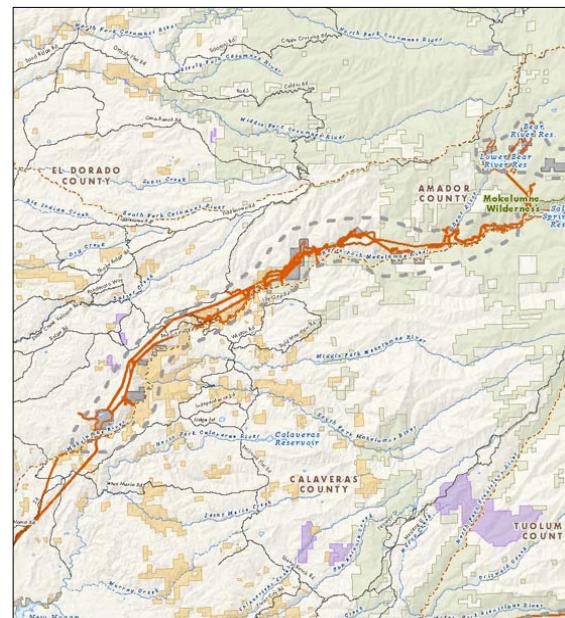
Overview

- Provides scenic river views, whitewater boating access, and popular trout fishing
- 3,438 acres in Amador and Calaveras Counties bordering an important archeological district
- 2,614 acres outside the FERC boundary; 824 acres inside
- Part of the Mokelumne River Project (FERC #137); New License issued October 2001

Located at an approximate elevation range of 700 to 4,200 feet, the North Fork Mokelumne River Planning Unit is made up of many parcels scattered along a 30-mile segment of the North Fork Mokelumne River and mainstem Mokelumne River. The planning unit also includes portions of East and West Panther Creeks, Tiger Creek, Tiger Creek Reservoir, Tiger Creek Regulator Reservoir, and Lake Tabbeaud (see Figure UM-5). The Upper Mokelumne River Watershed provides water supply for five counties as well as many agencies and other users.¹



Tiger Creek Afterbay Dam



North Fork Mokelumne River Planning Unit
Amador & Calaveras Counties

Planning unit lands also contain PG&E facilities such as dams, canals, power lines, and several powerhouses. There is an old mine within the planning unit, the condition of which is unknown. Highways 88, 29, and 49 are the main access routes to this planning unit with smaller local roads providing public access to rivers, lakes, and reservoirs. The topography along the Mokelumne River is very steep, making access to several parcels difficult.

The BLM, USFS, and Sierra Pacific Industries are the main adjacent landowners. The northern parcels within this planning unit are surrounded by the Eldorado National Forest to the north and Stanislaus National Forest to the south. The Salt Springs Game Refuge, managed by DFG, is also located near the Mokelumne River.

Fish, Plant, and Wildlife Habitat

The Mokelumne River and various tributaries provide primarily coldwater stream habitat, although warmwater habitat occurs in the river near the powerhouse at the southwestern end of the planning unit. Tiger Creek contains high quality trout habitat and has a high potential for natural trout production. Tributary streams in



North Fork Mokelumne River Existing Conditions

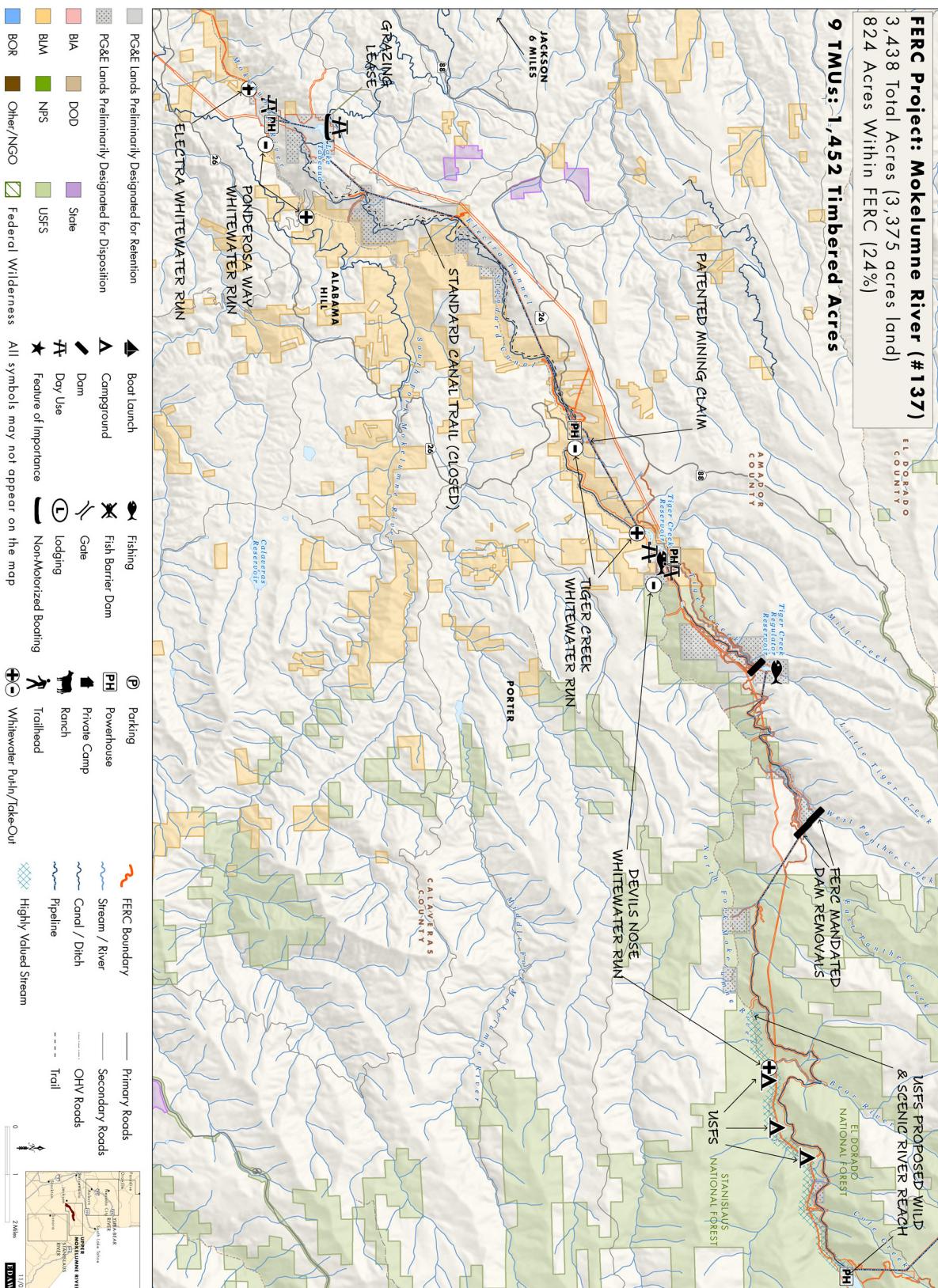


Figure UM-5

NORTH FORK MOKELUMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed

the area support self-sustaining populations of brown, rainbow, and brook trout. Breaching of diversion dams on East and West Panther Creeks was mandated by FERC to provide for fish passage and sediment transport. No anadromous, State or Federally threatened or endangered fish species are known to occur in the planning unit; however kokanee salmon migrate upstream from Pardee Reservoir to project waters below Electra Afterbay Dam and are assumed to spawn downstream of the powerhouse.

The planning unit also provides valuable terrestrial habitat. The Salt Springs deer herd winter in the northern portion of this planning unit. Seasonal deer migration routes also cross this planning unit, and PG&E has established more than 40 over- and under-crossings to allow unimpeded movement of deer.

The northern parcels within this planning unit also contain several miles of highly valued riparian habitat. Potentially suitable habitat for special status species, including valley elderberry longhorn beetle, western pond turtle, and foothill yellow-legged frog among others, is located in this planning unit.² USFS spotted owl Protected Activity Centers (PACs) are located adjacent to this planning unit, primarily by Tiger Creek and along the North Fork Mokelumne River parcels on the northern side of the planning unit.

Open Space

The planning unit provides open space and viewshed values for boaters, anglers, and several day use areas situated along the North Fork Mokelumne River. The North Fork Mokelumne River, below Salt Spring Reservoir, has also been recommended for Wild and Scenic River status by the USFS. As part of the May 2007 final Sierra Proposed Resource Management Plan, the BLM has also recommended 20 miles of the North Fork/Main Mokelumne River from the Highway 49 Bridge to Tiger Creek Afterbay to Congress as suitable for wild and scenic river designation (wild, scenic, and recreational).

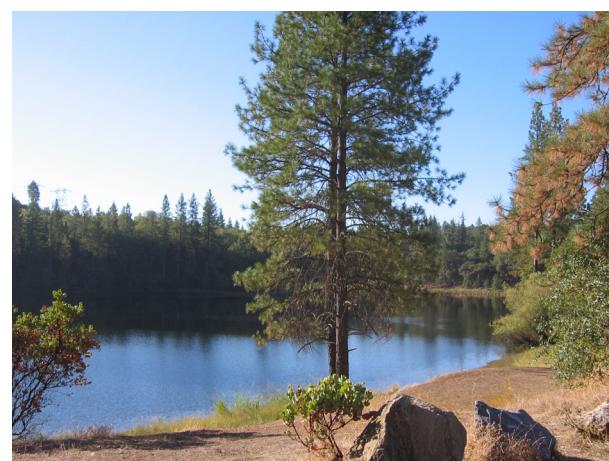
Outdoor Recreation

The planning unit provides opportunities for both land- and water-based recreation and is particularly popular for fishing. Day use facilities on the north side of Lake Tabeaud provide opportunities for picnicking, fishing, and non-powered boating. Electra and Tiger Creek Reservoir (also known as Tiger Creek Afterbay) also contain day use facilities for picnicking and fishing. The DFG annually stocks Tiger Creek Reservoir and Lake Tabeaud with rainbow trout. Camping facilities are not available in the planning unit; however, the USFS provides three campgrounds adjacent to the planning unit. North Fork Mokelumne River, below Salt Spring Reservoir, provides opportunities to boat on four whitewater runs.

As shown in Figure UM-5, the Standard Canal Trail historically ran along the Standard Canal alignment; however, this trail has been closed to the public. Additionally, the Coast to Crest Trail, a significant project that will span from the Pacific Ocean to the crest of the Sierra Nevada, is planned to generally follow the Mokelumne Aqueduct and the North Fork Mokelumne River. The exact alignment of the trail in the planning unit area, however, is undetermined.

Forest Resources

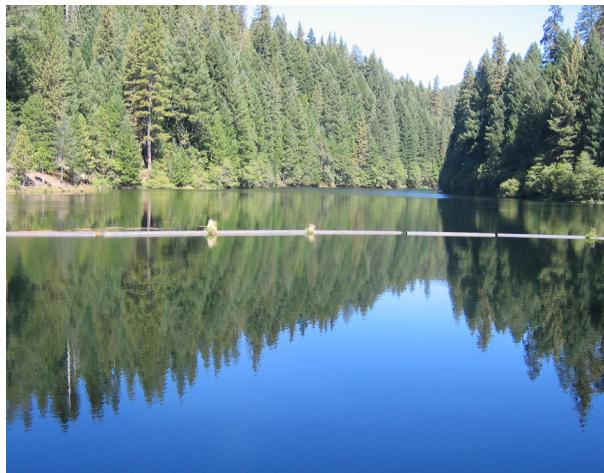
Prime timberland is located along Tiger Creek and Panther Creek, which has ongoing timber



Lake Tabeaud

NORTH FORK MOKELUMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed



Tiger Creek Regulator Reservoir

harvests by PG&E with future harvests planned. This planning unit contains nine dispersed Timber Management Units (TMUs) for a total of 1,452 timbered acres. The TMUs located by Panther Creek, Tiger Creek Regulator Reservoir, and the northeastern parcels north of the Mokelumne River are managed under a Multiple-Use prescription, meaning that protection and uses of other resources and facilities may preclude sustained timber management as the highest and best use of portions of the TMU. The northeastern parcels south of the Mokelumne River are managed under a Sustainable Timber Management prescription, meaning that sustained timber production is regarded as the highest and best use of the land while also placing an emphasis on protecting water quality, wildlife and fisheries habitat, soils, carbon sequestration, and cultural resources.

The northeastern-most parcel along the Mokelumne River and parcels by Tiger Creek Reservoir and West Point Tunnel are currently under a Salvage prescription, meaning that the lands are primarily managed for uses other than sustained timber production, but may require management to mitigate for emergency forest and watershed health issues, such as insect attacks. The parcels by Lake Tabeaud and Electra are currently being managed under a Salvage/Stand Improvement prescription, meaning that the lands are primarily managed for uses other than sustained timber production, but may require entry to reduce fuel loads, remove hazard trees,

and improve aesthetics. Several scattered parcels just downstream of West Point Tunnel have no timber management prescription.

Fire danger is a major concern in the North Fork Mokelumne River area. The Power Fire occurred just north of this planning unit in 2004, burning 16,800 acres in total. This fire affected the lands along East Panther Creek and resulted in substantial amounts of sediment entering the creek. Fire danger is also a major concern in the Lake Tabeaud area.

Agricultural Uses

There is one 300-acre grazing lease in this planning unit, located by Lake Tabeaud. In addition, there are adjacent USFS grazing allotments (Shotgun and Lower Blue) on the northern end and BLM grazing allotments on the southern end of the planning unit.

Historic Resources

The North Fork Mokelumne River Planning Unit is within the traditional territory of the Northern Sierra Miwok, which extends from the Sierra foothills and mountains as far north as the Consumnes River, and includes the drainages of the Mokelumne and Calaveras Rivers. The northern parcels, including Panther Creek and Tiger Creek parcels, are surrounded by the USFS-designated Mokelumne Archeological District.³



Sheep paddock above Lake Tabeaud

NORTH FORK MOKELUMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed

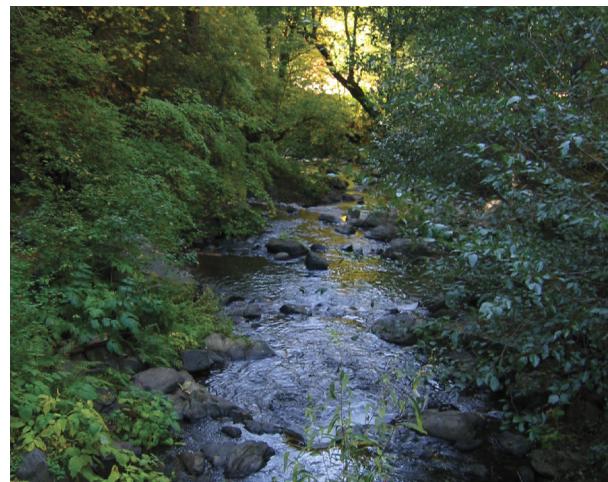
The northeastern most area within the planning unit contains archeological resources that have been fenced off to prevent further resource damage. Several areas in the Mokelumne River drainage, particularly in the vicinity of Tiger Creek Reservoir, continue to be important for Miwok gatherings.

The North Fork Mokelumne River has been used for water supply and hydropower production since the late 1800s. Several PG&E hydroelectric facilities and other infrastructure in the planning unit represent the importance of the area's history in power and water development. The Butte Ditch canal was constructed in 1855 and survives as the first major water resource structure on the Mokelumne River near the present-day Tiger Creek Reservoir.

Stewardship Council Recommendations

The Stewardship Council recommends that the land and land uses at the North Fork Mokelumne River Planning Unit be preserved and enhanced by focusing on enhancing valuable forestry and habitat resources, protecting cultural resources and enhancing the recreation experience. In presenting the Recommended Concept provided here, our objective is to protect habitat and cultural resources, as well as to enhance sustainable forestry, agricultural uses, and recreation opportunities. We recommend this effort be conducted in close coordination with PG&E.

Objective: Preserve and enhance biological, cultural, and agricultural resources while enhancing public access, the recreation experience, and sustainable forestry management.



Riparian habitat at Panther Creek

As shown on Table UM-3, the Stewardship Council has identified a number of preservation and/or enhancement measures that may contribute to the conservation management program for the North Fork Mokelumne River Planning Unit. Additional detail and background regarding these potential measures can be found in the Supporting Analysis for Recommendations, provided under separate cover. These measures are intended to be illustrative in nature, not prescriptive, and will be amended, deleted, or augmented over time in coordination with future land owners and managers to best meet the objective for this planning unit.



View from the Tiger Creek whitewater take-out

NORTH FORK MOKELUMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed

Fish, Plant, and Wildlife Habitat

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

In addition to forest habitats, the planning unit provides extensive aquatic and riparian habitat along the North Fork Mokelumne River and several creeks and tributaries. 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). These studies will likely be followed by management plans to ensure implementation of preservation and enhancement measures for specific resources. Management of the property to preserve and enhance habitat will also include addressing noxious weeds.

The Stewardship Council also recommends restriction of OHV use from Tiger Creek to protect habitat values from inappropriate recreation use, as well as supporting efforts by other entities to enhance aquatic habitat and water quality. We encourage close coordination with USFS, Upper Mokelumne River Watershed Authority, Mokelumne Ecological Resource Committee, and other resource-focused organizations working in the area. Habitat preservation and enhancement measures should be consistent with FERC license requirements



Electra whitewater put-in

and all planning should 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, and agricultural land uses.

This concept would preserve open space by limiting construction to only minor additions of recreation facilities, as well as through permanent conservation easements. Conservation easements would describe and 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, education, and enhance the recreation experience.

Day use, fishing, boating, and whitewater boating opportunities and facilities are



Picnic site & mixed oak pine woodland

NORTH FORK MOKELUMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed

present in the North Fork Mokelumne River Planning Unit. As shown in Figure UM-6, the Stewardship Council looks to enhance these opportunities by recommending facility enhancements and additions as well as supporting future trail development efforts. We recommend enhancements focused on additional restroom, trail and signage facilities, increased opportunities for youth education and recreation, as well as improved day use facilities and fishing access. The Stewardship Council also recommends supporting any future efforts to restore the Standard Canal Trail or establish the Coast to Crest Trail (if it crosses the planning unit). To enhance user safety, the Stewardship Council recommends identifying unauthorized uses and developing strategies to address these uses.

Sustainable Forestry

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

The North Fork Mokelumne River Planning Unit contains fragmented forest stands which are managed across a spectrum from intense management and harvesting to no management at all. The planning unit is within a fire-prone area, as demonstrated by a recent large fire. 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 management of plantations. Additionally, the Stewardship Council recommends assessing the potential to develop a demonstration forest to promote sustainable forestry research and management. The fuels and forest management plans should be developed in conjunction with rangeland, noxious weed and wildlife and habitat management plans. We expect that all of these plans would be developed in coordination with



Electra Powerhouse discharge adjacent landowners and USFS 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.

In addition to the existing grazing lease, there may be potential to provide additional grazing opportunities within the planning unit in conjunction with adjacent allotments. The Stewardship Council looks to preserve this resource and important economic use as part of the long-term management of the North Fork Mokelumne River Planning Unit. To support this effort, we anticipate a baseline conditions report will be required to describe current agricultural, physical, and overall biological conditions of the area, and determine the feasibility of providing grazing within the planning unit in coordination with adjacent USFS and BLM allotments. From this, specific determinations can be made to identify and manage grazing practices in balance with other uses and values of the property.

NORTH FORK MOKELUMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed

Preservation of Historic Values

Objective: Identify and manage cultural resources in order to ensure their protection, as well as to support opportunities for public education.

The North Fork Mokelumne River Planning Unit contains historic and prehistoric resources, as well as traditional Native American gathering sites. The Stewardship Council aims to support an increased understanding of these resources and ensure they are appropriately protected. To meet this objective, we recommend that cultural resource studies be conducted to understand the resources found in the planning unit (particularly outside the FERC cultural resource study area where less information is available), that appropriate management plans be developed and implemented, and that opportunities to support public education regarding cultural resources be considered. The Stewardship Council specifically recommends that lands adjacent to the USFS

Mokelumne Archeological District be managed to complement management of the district. 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 FERC license required Heritage Resources Management Plan (HRMP).

Endnotes

¹ The Bear River Reservoirs are a water supply source for Alameda, Contra Costa, San Joaquin, Amador, and Calaveras Counties, Jackson Irrigation District, Amador Water Agency, North San Joaquin Water Conservation District, Woodbridge Irrigation District, East Bay Municipal Utility District, and senior appropriators.

² Potential habitat for American peregrine falcon and Pacific fisher and two special status plant species, the Pleasant Valley mariposa lily and Stebbins's lomatium are found within one mile of the planning unit.

³ The Mokelumne Archeological District was designated in 1988 and includes 12,200 acres of Federally managed land and over 125 recorded archeological sites.



Canal by Tiger Creek Regulator Reservoir

NORTH FORK MOKELUMNE RIVER PLANNING UNIT
Upper Mokelumne River Watershed

Table UM-3 Objectives to Preserve and/or Enhance – Recommended Concept

Planning Unit Objective: Preserve and enhance biological, cultural, and agricultural resources while enhancing public access, the recreation experience, and 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. • Develop a noxious weed management plan for areas not included in the FERC-mandated Noxious Weed Plan. • Support the Mokelumne Ecological Resource Committee and Eldorado National Forest to continue to enhance aquatic habitat in East and West Panther Creeks.** • Restrict OHV use from Tiger Creek.** • Support future Upper Mokelumne River Watershed Authority efforts to preserve water quality and identify protection and improvement projects that are most critical.
Preservation of Open Space	Preserve open space in order to protect natural and cultural resources, viewsheds, and agricultural land uses.	<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, education, and enhance the recreation experience.	<ul style="list-style-type: none"> • Identify and disclose unauthorized uses and develop strategies to address future management and/or eradication. • Enhance existing day use facilities at Electra.** • Install interpretive signage about dam removals, the history of power, mining, timber harvesting, water conveyance, and traditional uses in the area.** • Add a permanent restroom at the Tiger Creek whitewater put-in.** • Support any future efforts to restore the historic Standard Canal Trail.** • Add a trail around Lake Tabaud.** • Support future efforts to establish the Coast to Crest Trail if the trail crosses planning unit lands.** • Improve fishing access at Tiger Creek Reservoir.** • Assess the potential for youth program opportunities.
Sustainable Forestry	Develop and implement forestry practices in order to contribute to and promote a sustainable forest, preserve and enhance habitat, as well as to ensure appropriate fuel load management.	<ul style="list-style-type: none"> • Evaluate existing timber inventory data and supplement as appropriate. • Develop a forest management plan for the planning unit to promote natural forest development and structural and physical diversity in forests for long-term ecological, economic, social, and cultural benefits. • Manage plantations to best mimic forests in the natural landscape.** • Develop a fuels management plan to ensure long-term forest health and reduce fuel loading and fire hazard throughout the planning unit. • Assess the potential to develop a demonstration forest for sustainable forestry research and management.
Agricultural Uses	Preserve and enhance grazing in order to support associated economic benefits, as well as to protect open space and habitat resources.	<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 and a monitoring and adaptive management strategy, as well as specifies grazing practices that address soil and water conservation, erosion control, pest management, nutrient management, vegetation management, habitat protection, and cultural resources management. • Evaluate the potential for grazing opportunities within the planning unit, in coordination with adjacent BLM and USFS grazing allotments.
Preservation of Historic Values	Identify and manage cultural resources in order to ensure their protection, as well as to support opportunities for public education.	<ul style="list-style-type: none"> • Conduct surveys outside the FERC Project APE to identify cultural resources and enable their protection. • Develop a cultural resources management plan for areas not already included in the FERC mandated Heritage Resources Management Plan (HRMP). • Coordinate with Native American entities when conducting cultural resource measures. • Manage adjacent parcels to complement USFS Mokelumne Archeological District management.**

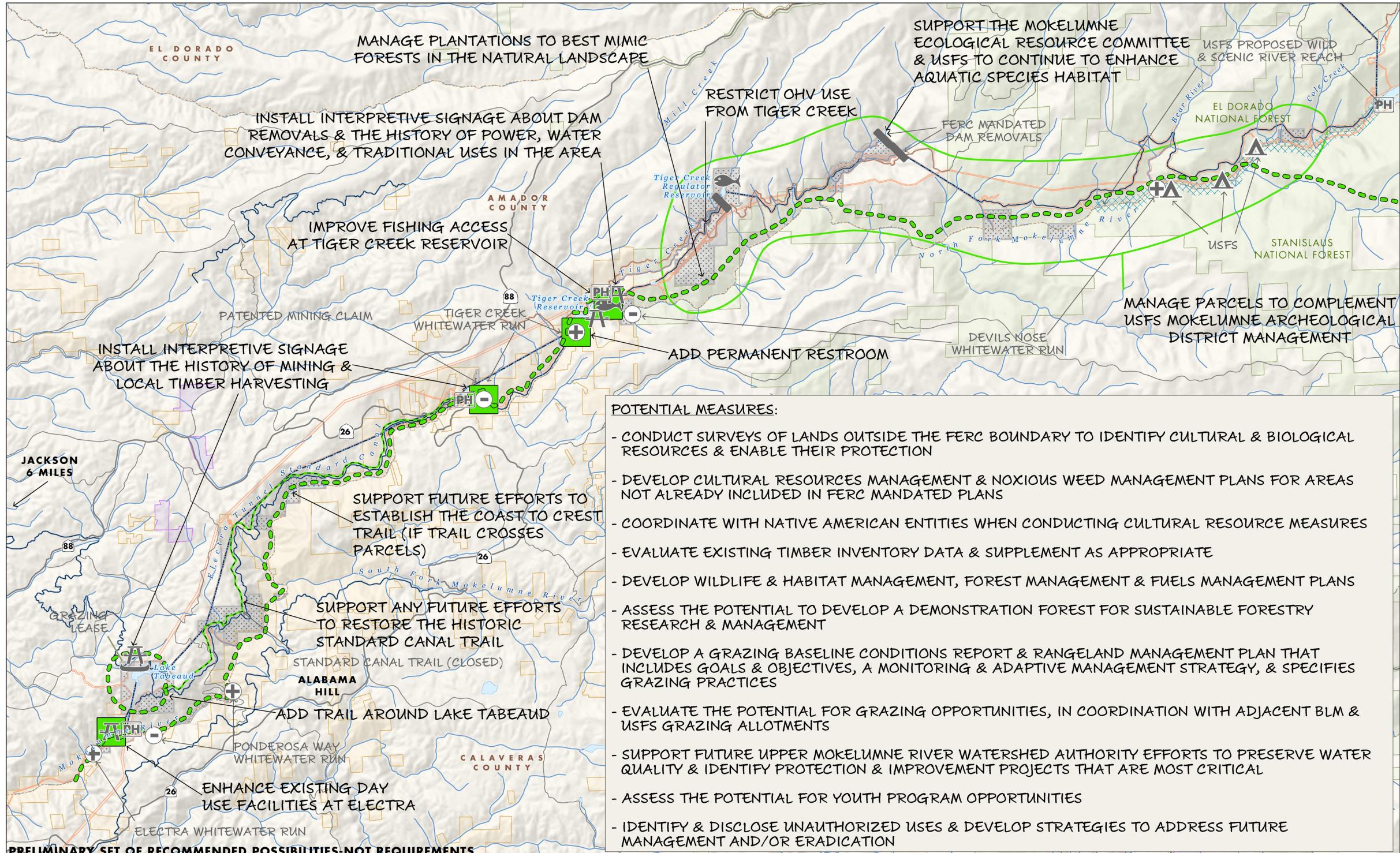
* This is a set of recommended possibilities for the preservation and enhancement of BPV's, and is not intended to be a set of requirements for future land management.

** Denotes site specific measure.

NORTH FORK MOKELUMNE RIVER PLANNING UNIT

Upper Mokelumne River Watershed

North Fork Mokelumne River Recommended Concept



PG&E Lands Preliminarily Designated for Retention
PG&E Lands Preliminarily Designated for Disposition

BIA DOD State
BLM NPS USFS
BOR Other/NGO Federal Wilderness

Concept Features
Modify Existing Feature
New Feature

Day Use
Trail

Existing Features
Boat Launch
Campground
Dam
Day Use
Feature of Importance

Fishing
Fish Barrier Dam
Gate
Lodging
Non-Motorized Boating
Parking
Powerhouse
Private Camp
Ranch
Trailhead
Whitewater PutIn/TakeOut

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 UM-6

North Fork Mokelumne River Planning Unit

Fish, Plant, and Wildlife Habitat

Potential Measure:

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

Though many biological resource studies were conducted for the Mokelumne Project FERC relicensing, these studies likely focused only on resources within the FERC boundary and did not include the entire planning unit. Therefore, the Stewardship Council recommends conducting surveys outside the FERC boundary to identify biological resources and enable their protection. Information obtained from recommended surveys would further inform and guide restoration, habitat enhancement, or timber management opportunities in this area.

Potential Measure:

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

The Stewardship Council recommends using biological resource survey data to create a wildlife and habitat management plan. The planning unit and adjacent areas contain potential habitat for several special status species including valley elderberry longhorn beetle, northwestern pond turtle, American peregrine falcon, Pacific fisher, foothill yellow-legged frog, California spotted owl, Pleasant Valley mariposa lily, and Stebbins's lomatium. Tiger Creek contains considerable trout habitat and has a high potential for natural trout production. Recommended surveys may also reveal additional special status plants and wildlife.

Once recommended surveys are completed, potential habitat enhancement and restoration opportunities 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. The plan would emphasize continuity of management with adjacent USFS spotted owl Protected Activity Centers (PACs) and deer summer range habitat connectivity. Resident Columbian black-tailed deer and wintering California mule deer of the Salt Springs herd are found by Tiger Creek Regulator Reservoir. Spotted owl PACs are located primarily by Tiger Creek and along the North Fork Mokelumne River by Camp Creek. Identifying and protecting late successional stands for the purpose of habitat enhancement for the spotted owl would be one component of providing continuity with adjacent management. Monitoring of species and/or habitats would also be a component of the plan. The wildlife and habitat management plan should be developed in conjunction with the rangeland, noxious weed, forest management, and fuels management plans. Recommended habitat protection measures would also generally protect cultural resources.

Potential Measure:

- *Develop a noxious weed management plan for areas not included in the FERC-mandated Noxious Weed Plan.*

Preparation and implementation of a Noxious Weed Plan was mandated as part of the Mokelumne Project FERC License Order in the project area. This plan was prepared in 2002 and approved by Eldorado National Forest. The noxious weed survey area included USFS land inside

the FERC boundary as well as adjacent planning unit lands. The area south of Tiger Creek Powerhouse was not included in this plan. Baseline studies as well as the first treatment applications were carried out within the planning unit from 2004 to 2005. The Stewardship Council recommends preparation and implementation of a noxious weed management plan for areas of the planning unit not covered by the FERC license required Noxious Weed Plan. This measure is recommended to eradicate existing populations of noxious weeds where possible and implement preventative measures to minimize the spread of weeds in the future. This plan would also provide for more consistent management of noxious weeds with adjacent management and should be coordinated with PG&E and the USFS. This plan should be developed in conjunction with the fuels, forest, rangeland, and wildlife and habitat management plans.

Potential Measure:

- *Support the Mokelumne Ecological Resource Committee and Eldorado National Forest to continue to enhance aquatic habitat in East and West Panther Creeks.*

The FERC License Order mandated the removal of East and West Panther Creek diversion dams to restore natural fish passage conditions, bedload transport, and stream channel and riparian habitat. The diversion dam facilities have been entirely removed from West Panther Creek and partially removed from East Panther Creek. The dams are being removed to benefit aquatic species in these creeks as well as amphibian populations by restoring the creeks to natural, unimpaired flow. The Stewardship Council recommends supporting the Mokelumne Ecological Resource Committee that was established during FERC Project relicensing, as well as the Eldorado National Forest, to continue to enhance aquatic habitat in East and West Panther Creeks.

Potential Measure:

- *Support future Upper Mokelumne River Watershed Authority efforts to preserve water quality and identify protection and improvement projects that are most critical.*

The Stewardship Council also recommends supporting future Upper Mokelumne River Watershed Authority (UMRWA) efforts to preserving water quality, water supply, and the environment in the Upper Mokelumne River Watershed. The UMRWA Project developed a water quality database to establish a baseline for a watershed water quality assessment of the Upper Mokelumne River and identified management measures for agencies to implement to maintain and improve source water quality in the watershed.

Potential Measure:

- *Restrict OHV use from Tiger Creek.*

The Stewardship Council recommends that informal OHV access into Tiger Creek be restricted to protect riparian and aquatic habitat, as well as water quality. There is one specific area by a small bridge where OHVs can easily drive down into the creek. This activity should be restricted through the use of bouldering or other appropriate methods.

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 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 both current and recommended recreation uses, as well as areas of biological and cultural importance. Identifying and designating late successional stands for the purpose of habitat enhancement for spotted owl would also be incorporated into forest management practices. The forest management plan should be developed in conjunction with the rangeland, noxious weed, fuels, and wildlife and habitat management plans.

Potential Measure:

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

Plantations were noted as being present south of Tiger Creek Regulator Reservoir in PG&E's September 2001 Timber Management Plan; however, the size and condition of plantations are unknown. The Stewardship Council recommends managing existing plantations to mimic forest in the natural landscape. The scale and layout of plantation blocks would be consistent with the patterns of forest stands found in the natural landscape. Trees would be selected that are suitable for the natural conditions of the site. Unless unsuitable based on regeneration potential, native species would be selected and exotic species used only minimally and only when determined to present no adverse ecological impacts. Management of plantations to mimic forests in the natural landscape would be included within the forest management plan.

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 lakes and promote the restoration and conservation of natural forests. Post-harvest, a monitoring plan would be developed to ensure that forest management and the proposed harvesting schedule would be consistent with the forest management plan, promoting natural forest development in perpetuity. For those portions of the planning unit currently managed as Salvage and Salvage/Stand Improvement prescriptions, 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.

Potential Measure:

- *Assess the potential to develop a demonstration forest for sustainable forestry research and management.*

In addition, the Stewardship Council also recommends assessing the potential for the development of a demonstration forest, to promote sustainable forest management and research. This demonstration forest would represent the mixed conifer forest type which exists by Tiger Creek Reservoir. The development of a demonstration forest would be consistent with the goals and objectives of the forest management plan for the planning unit.

Potential Measure:

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

Management of fuels is very important in reducing high fire risk in this planning unit, particularly at the wildland/urban interface by Lake Tabbeaud. Therefore, the Stewardship Council recommends developing a fuels management plan for this planning unit. The plan would ensure long-term forest health and reduce fuel loading and fire hazard throughout the planning unit. Coordination with adjacent landowners and USFS management would promote an integrative approach to the forest, habitat, and recreation resources in this area. This plan should be developed in conjunction with the rangeland, noxious weed, forest, and wildlife and habitat 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 throughout the planning unit to maintain open space values, including the level of uses allowed. Recommendations include only minor additions of recreation facilities and are not expected to decrease the scenic quality of the viewsheds.

Agricultural Uses

Potential Measures:

- *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 and a monitoring and adaptive management strategy, as well as specifies grazing practices that address soil and water conservation, erosion control, pest management, nutrient management, vegetation management, and habitat protection.*

The area by Lake Tabbeaud currently provides opportunities for existing livestock grazing (goat, horse, and cattle grazing are permitted). It is unknown if range assessments have been completed

for the planning unit and whether or not appropriate grazing practices are being used by the existing lessee. Therefore, 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. 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. The rangeland management plan should be developed in conjunction with the noxious weed, forest, fuels, and wildlife and habitat management plans, as well as development of recommended recreation facilities within the planning unit to ensure consistent and complementary actions.

Potential Measure:

- *Evaluate the potential for grazing opportunities within the planning unit, in coordination with adjacent BLM and USFS grazing allotments.*

During development of the baseline conditions report and rangeland management plan, opportunities for grazing in coordination with adjacent allotments would also be evaluated. The Stewardship Council recommends evaluating the potential for grazing opportunities in coordination with adjacent grazing allotments. Both BLM and USFS grazing allotments are located adjacent to planning unit lands. If grazing is determined to be feasible at new locations within the planning unit, other than by Lake Tabaud, the recommended rangeland management plan should include this additional grazing use.

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.*

It is likely that cultural resource surveys conducted during relicensing efforts were limited to the FERC Project Area of Potential Effects (APE), generally defined as all lands within the FERC boundary. Therefore, lands outside the APE were likely not surveyed. There is a high likelihood of cultural sites outside the APE; therefore, the Stewardship Council recommends conducting surveys outside the APE to identify cultural resources and enable their protection.

Documentation of cultural sites should be coordinated with Native American entities.

Potential Measures:

- *Develop a cultural resources management plan for areas not already included in the FERC mandated Heritage Resources Management Plan (HRMP).*
- *Coordinate with Native American entities when conducting cultural resource measures.*

Although a Heritage Resources Management Plan (HRMP) is being developed as part of FERC relicensing, it will only include measures to avoid and mitigate impacts to resources within the APE. Assuming that recommended surveys identify additional cultural sites within the planning unit, the Stewardship Council recommends developing a cultural resources management plan for areas not included in the FERC license required HRMP to ensure that all 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. Management of recreation uses (e.g., management of OHV use) would also protect cultural resources from damage. Development of the cultural resources management plan should be consistent with the FERC license required HRMP and should be coordinated with Native American entities.

Potential Measures:

- *Manage adjacent parcels to complement USFS Mokelumne Archeological District management.*
- *Coordinate with Native American entities when conducting cultural resource measures.*

The Stewardship Council also recommends managing parcels adjacent to USFS lands to complement the management of the USFS Mokelumne Archeological District in order to ensure protection of outstanding remarkable heritage resource values. It would need to be verified that local tribes are included as a part of planning efforts for the Mokelumne Archeological District. If they are not, appropriate tribes should be included in any cultural resources planning associated with management of the planning unit lands.

Outdoor Recreation

Potential Measure:

- *Add a trail around Lake Tabbeaud.*

The potential exists to further enhance existing recreation and provide additional recreation opportunities, though opportunities are somewhat limited by the variety of existing facilities. Existing recreation opportunities would continue and several new and enhanced recreation opportunities are recommended. Measures to enhance the recreation experience along the North Fork Mokelumne River and at Lake Tabbeaud include the addition of several new trails. One of the recommended trails would provide access around Lake Tabbeaud. Since Lake Tabbeaud is only about 10 miles from the City of Jackson, the trail would provide a recreation experience for the local community. The trail would be located sufficiently away from Lake Tabbeaud to minimize erosion or other water quality concerns to this drinking water reservoir. Security concerns related to trespassing, prohibited uses, and inappropriate hours of use as well as fire concerns would be addressed through the installation of signage as well as fuels management practices (discussed in more detail below). Any trail segments that already exist around Lake Tabbeaud would be incorporated into this trail where feasible. The trail would also provide opportunities for impressive spring wildflower viewing.

Potential Measure:

- *Support any future efforts to restore the historic Standard Canal Trail.*

The Stewardship Council also recommends supporting any future efforts to restore the historic Standard Canal Trail. This historic trail was once located along the Standard Canal, but has been closed to the public. Reopening the trail could provide additional hiking, equestrian, and/or biking opportunities, as well as interpretive opportunities within the planning unit; therefore, the Stewardship Council recommends supporting any future efforts by other entities to restore this trail. Prior to restoring the historic trail, an analysis would need to be conducted by the entity organizing this effort to determine the safety and feasibility of reopening this trail, as it could expose sensitive operational features and adjacent properties to potential vandalism as well as create difficult fire management conditions.

Potential Measure:

- *Support future efforts to establish the Coast to Crest Trail if the trail crosses planning unit lands.*

In addition, the Stewardship Council recommends supporting future efforts to establish the Coast to Crest Trail if the final alignment crosses planning unit lands. The trail will likely be sited on the ridge-top on the south side of the Mokelumne River, in which case it would not pass through the planning unit parcels. However, if the trail crosses planning unit lands, access easements to cross planning unit lands would be needed.

Potential Measure:

- *Improve fishing access at Tiger Creek Reservoir.*

The Stewardship Council recommends enhancing fishing access at Tiger Creek Reservoir. At present, only one-third of the Tiger Creek Reservoir shoreline is accessible to anglers; nonetheless, the reservoir receives considerable use. The shore of Tiger Creek Reservoir is very steep in most locations, making access difficult. The Stewardship Council recommends providing a fishing access either by the Tiger Creek whitewater put-in area or at another suitable location along Tiger Creek Reservoir, if one can be identified, to enhance fishing access opportunities.

Potential Measures:

- *Enhance existing day use facilities at Electra.*
- *Add a permanent restroom at the Tiger Creek whitewater put-in.*

In addition, the Stewardship Council recommends improving existing recreation facilities, including enhancement of the existing day use facilities by Electra. The day use area by Electra would benefit from some enhancements, including revegetating some of the many user-created trails to the beach, improved signage to the picnic area, vegetation management by barbeques, and repair of damaged picnic tables. The Stewardship Council also recommends adding a permanent restroom to the Tiger Creek whitewater put-in area where the portable restrooms have been vandalized/tipped in the past.

Potential Measure:

- *Install interpretive signage about dam removals, the history of power, mining, timber harvesting, water conveyance, and traditional uses in the area.*

The Stewardship Council also recommends installing interpretive signage or displays depicting the history of mining activities, timber harvesting, hydropower, water conveyance, recent dam removals, and traditional uses in the area. This measure would educate the public about some of the values that make the North Fork Mokelumne River special and enhance their enjoyment and appreciation of those values. The addition of interpretive features could encourage better stewardship of the area. Signage could be located at existing day use areas or along proposed trails.

Potential Measure:

- *Assess the potential for youth program opportunities.*

The existing recreation facilities provide an excellent opportunity to educate youth from nearby towns such as Jackson on a variety of topics within the planning unit, such as wildlife, cultural resources, and stream restoration. Therefore, the Stewardship Council recommends assessing the potential for youth program opportunities within the planning unit to educate youth on topics such as wildlife and botanical resources, including threatened and endangered species, cultural resources associated with the adjacent USFS Mokelumne Archaeological District, and the recent dam removals on East and West Panther Creeks and associated aquatic habitat enhancements. Youth program opportunities would educate students on the outstanding resources in their local area and hopefully encourage a sense of pride and protection of these resources.

Potential Measure:

- *Identify and disclose unauthorized uses and develop strategies to address future management and/or eradication.*

The Stewardship Council also recommends determining the magnitude of existing illegal uses in this planning unit including drug/methamphetamine labs, dumping, trespassing, illegal camping, and vandalism. The Stewardship Council will work with PG&E to identify and disclose unauthorized uses, and develop strategies to address future management and/or eradication of those uses during the development of the disposition packages in Volume III of the LCP.

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