

# BLUE LAKES PLANNING UNIT

## Upper Mokelumne River Watershed

### Existing Conditions & Uses

#### Overview

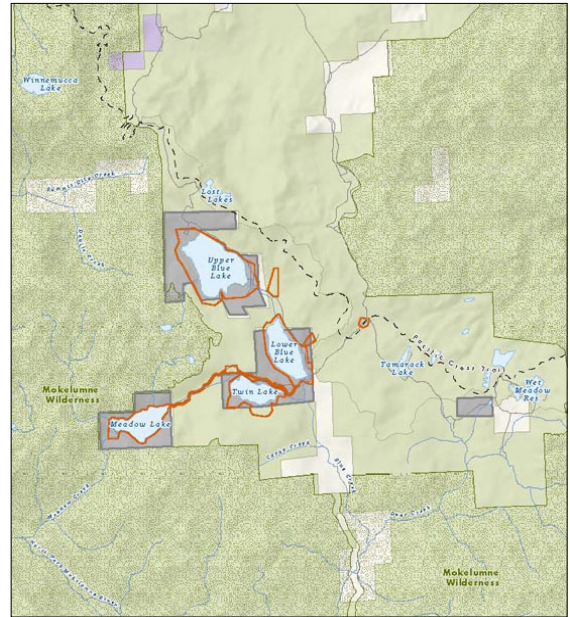
- Popular high elevation lakes adjacent to the Mokelumne Wilderness; 2,028 acres in Alpine County
- 1,025 acres outside the FERC boundary; 1,003 acres inside
- Part of the Mokelumne River Project (FERC #137); New License Order issued October 2001

The Blue Lakes Planning Unit is located at a high elevation (over 8,000 feet) and contains four glacial step lakes: Upper Blue Lake, Lower Blue Lake, Twin Lake, and Meadow Lake. Segments of Middle Creek, Blue Creek, Meadow Creek, and Deer Creek flow through this planning unit. The planning unit is almost entirely surrounded by USFS land and is bordered on the western side by the Mokelumne Wilderness (see Figure UM-1). Private lands border this planning unit to the southeast of Lower Blue Lake. The planning unit is located 30 miles south of South Lake Tahoe and 11 miles northwest of Kirkwood.

The Blue Lakes Planning Unit does not have any hydropower facilities or infrastructure, with the exception of dams. The Upper Mokelumne River



Willows along the edge of Upper Blue Lake & dam



Blue Lakes Planning Unit  
Alpine County

Watershed provides water supply for five counties as well as many agencies and other users.<sup>1</sup> Two PG&E residences are located just south of Lower Blue Lake; one is used by a seasonal contractor and the other is used as a crew cabin. A PG&E cabin used for operations is also located on the northern side of Twin Lake.

#### Fish, Plant, and Wildlife Habitat

The lakes, creeks, and associated riparian areas found in this planning unit provide a diverse range of high elevation habitats. No anadromous fish currently utilize the waters in this area; however, several trout species occur in both the creeks and lakes. The area may also provide habitat for special status species such as Yosemite toad, pine marten, snowshoe hare, and two Federal candidate species (Pacific fisher and mountain yellow-legged frog), as well as deer summer range. Bald eagles may also use the lakes for summer habitat, and Meadow Lake contains potential peregrine falcon habitat. Several USFS willow flycatcher Protected Activity Centers (PACs) are located within one mile of this planning unit. No special status plant species have been recorded in the planning unit, though the potential exists for the subalpine



# Blue Lakes Planning Unit

## Existing Conditions



- PG&E lands Preliminary Designated for Retention
- PG&E lands Preliminary Designated for Disposition
- B/A
- BIM
- BOR
- DOD
- NPS
- Other/NGO
- State
- USFS
- Federal Wilderness

- Boat Launch
- Campground
- Dam
- Day Use
- Feature of Importance
- Fishing
- Fish Barrier Dam
- Gale
- Lodging
- Non-Motorized Boating
- Parking
- Powertehouse
- Private Camp
- Ranch
- Trailhead
- Whitewater Puhh/TakeOut

- FERC Boundary
- Stream / River
- Canal / Ditch
- Pipeline
- Primary Roads
- Secondary Roads
- OHV Roads
- Trail

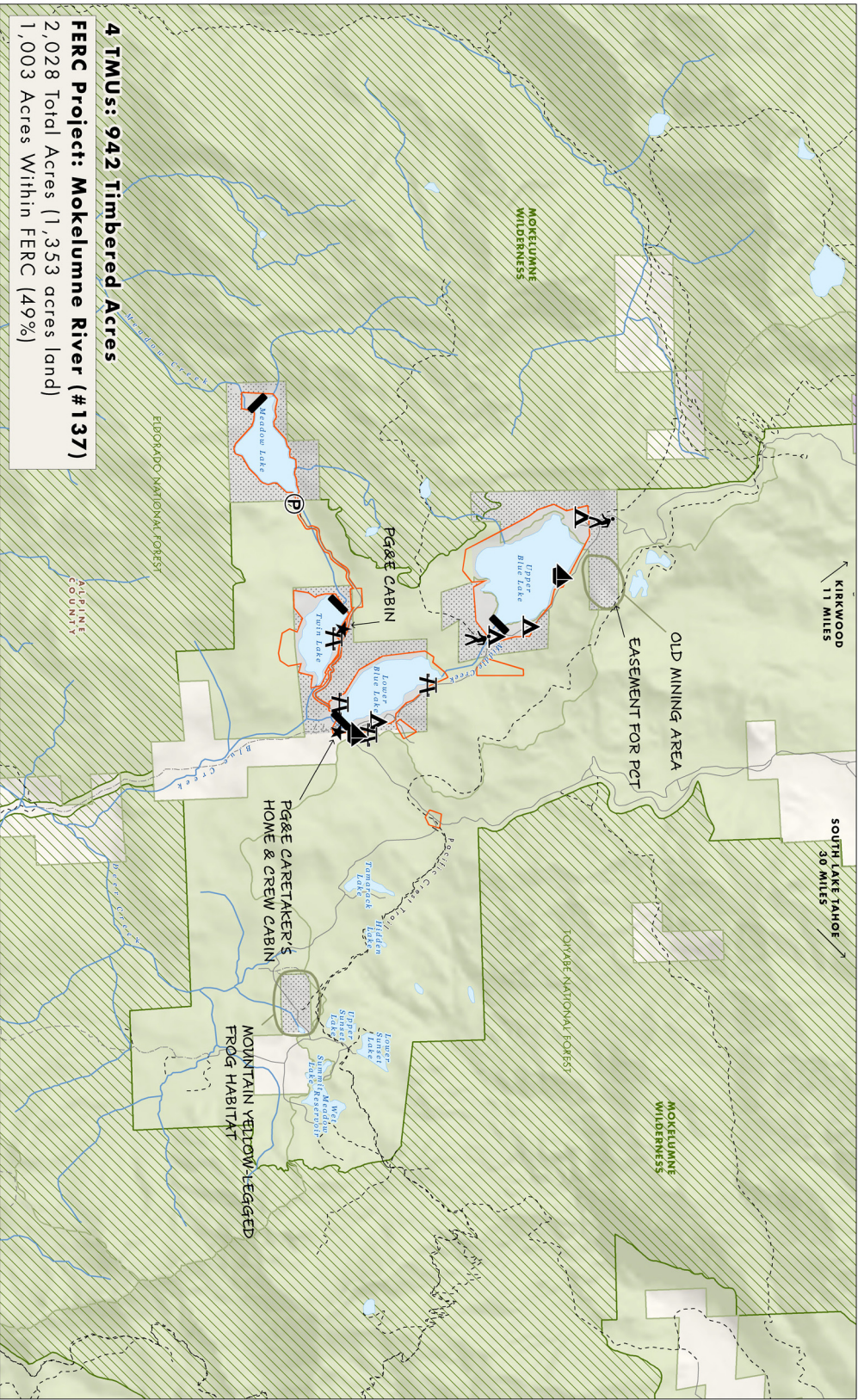


Figure UM-1



# BLUE LAKES PLANNING UNIT

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cryptantha, two species of sedge, and two species of claytonia to occur in the area.

### Open Space

The planning unit provides open space adjacent to the Mokelumne Wilderness as well as viewshed values for several campgrounds and day use areas around these lakes. The Alpine County General Plan has designated the planning unit's lands as Open Space with the intention of protecting and promoting wise use of the County's natural resources, including growing or harvesting of forest products, agricultural production, protection or development of mineral resources, protection of important wildlife and aquatic habitats, and preservation of significant view corridors and dispersed recreation.

### Outdoor Recreation

Recreation use of the area is significant, primarily consisting of camping, hunting, fishing, hiking, swimming, OHV use, and boating. Developed campgrounds, day use areas, and boat ramps are located throughout this area; however, Meadow Lake does not contain any developed recreation facilities, with the exception of a gravel parking lot.<sup>2</sup> The planning unit contains two trailheads to the adjacent Mokelumne Wilderness, and a half-mile segment of the Pacific Crest Trail runs across the eastern Upper Blue Lake parcel.

As part of recent relicensing, several recreation enhancements have been implemented. These include the addition of a visitor information kiosk; graveling of several parking areas; upgrades to the Twin Lake day use area; upgrades to the Lower Blue Lake fishing access area, picnic area, and boat launch; expansion of the Middle Creek Campground; and the addition of signage at Highway 88 to indicate when all developed campsites are full. The County Road from Highway 88 to this planning unit, Blue Lakes Road, was recently paved, providing easy access for recreationists and thus potentially increasing use.

### Forest Resources

Subalpine conifers, lodgepole pine, and red fir stands with interspersed granite outcroppings dominate this planning unit. Late seral stage stands comprise 385 acres of the almost 950 acres of timbered land surrounding the lakes. No timber harvests are planned by PG&E; however, fuels management is conducted in this area. The planning unit is currently under a Salvage management prescription, meaning that the lands are primarily managed for uses other than sustained timber production, but may require management to mitigate for urgent forest and watershed health issues such as insect attacks.

### Agricultural Uses

The Indian Valley USFS grazing allotment surrounds parts of Meadow Lake, the southern edge of Twin Lake, and the northwestern edge of Lower Blue Lake. The eastern edges of Upper and Lower Blue Lakes and the eastern parcel by Deer Creek are classified by the USFS as "non-allotments." There are no grazing leases on PG&E land at the present time, as planning unit lands serve as a water quality buffer from sediment going into the adjacent lakes and creeks.

### Historic Resources

An old livery stable used to board horses during construction of the dam is located south of Lower



Granite boulder along the banks of Meadow Lake

# BLUE LAKES PLANNING UNIT

## Upper Mokelumne River Watershed



Drawdown zone along Lower Blue Lake

Blue Lake. This and other cultural resources in the planning unit may be eligible for NRHP listing. Numerous prehistoric and historic sites have been found around the lakes. The planning unit is in traditional Washoe territory, which was centered around Lake Tahoe but extended across the headwaters of the Mokelumne River.

### Stewardship Council Recommendations

The Stewardship Council recommends that the land and land uses at Blue Lakes be preserved and enhanced by focusing on the unique high elevation habitat values, cultural resources, and popular recreation opportunities available within the planning unit. In presenting the Recommended Concept provided here, our objective is to enhance opportunities for recreation, preserve cultural resources, and preserve and enhance the high elevation habitat.

**Objective: Preserve and enhance biological and cultural resources, and enhance recreation opportunities and sustainable forestry management.**

As shown on Table UM-1, the Stewardship Council has identified a number of preservation and/or enhancement measures that may contribute to the conservation management program for Blue Lakes. 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.**

In general, Blue Lakes provides diverse high elevation aquatic and riparian habitats. The Stewardship Council recognizes the importance of this resource for public recreation and access, but intends to see that the wilderness beauty of the area and the habitat resources found here are protected. In order to preserve and enhance the habitat resources found at Blue Lakes, 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



Lower Blue Lake looking northeast



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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.

Additionally, some recreation facilities and areas may need to be altered to further protect habitat resources from inappropriate recreation use. We encourage close coordination with the USFS, Upper Mokelumne River Watershed Authority, and other resource-focused organizations working in the area. Habitat preservation and enhancement measures should be consistent with FERC license requirements, and all planning should be considered in conjunction with fuels and forest management plans.

### Open Space

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

This concept would preserve open space by limiting new construction to minor additions of recreation facilities, as well as through permanent conservation easements. The Stewardship Council specifically recommends that areas bordering the Mokelumne Wilderness be managed to complement adjacent wilderness values. Conservation easements would describe all prohibited uses to maintain open space values, including the level of uses allowed and the requirement to maintain scenic qualities.

### Outdoor Recreation

**Objective: Enhance recreational facilities in order to provide additional education and recreation opportunities consistent with the carrying capacity of the area.**

Blue Lakes is a popular recreation destination. The planning unit offers many developed



Glacier erratic on granite above Meadow Lake

recreation facilities to support heavy camping, fishing, hiking, hunting, swimming, boating, and OHV use. Due to its location, the planning unit also provides multiple entry points to the Mokelumne Wilderness. As shown in Figure UM-2, the Stewardship Council looks to enhance recreation opportunities by recommending a few additional facilities to enhance the recreation experience, but not greatly increase the number of visitors to the area. We recommended enhancements focus on evaluating adding a new day use area, evaluating trail access between the lakes, additional interpretive signage, and increased opportunities for youth education and recreation.

### Sustainable Forestry

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

Though the Blue Lakes Planning Unit primarily consists of water features, there are some forest resources present. 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

# BLUE LAKES PLANNING UNIT

## Upper Mokelumne River Watershed

management, and fuels management. The forest and fuels management plans should be developed in conjunction with noxious weed and wildlife and habitat management plans. We expect that all of these plans would be developed in coordination with adjacent landowners and USFS management and practices as appropriate.

### Preservation of Historic Values

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

Numerous prehistoric and historic cultural resources are known to be present at Blue Lakes, and there is a high likelihood that additional cultural resources are present. 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 at Blue Lakes (particularly outside the FERC cultural resources 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. Additionally, some recreation facilities and areas may need to be altered to further protect cultural resources from inappropriate recreation use. Throughout this effort, the Council recommends close

coordination with Native American entities. Development of the cultural resources management plan should be consistent with the existing FERC license mandated Heritage Resources Management Plan (HRMP).

### Endnotes

<sup>1</sup> 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.

<sup>2</sup> The road from the gravel parking lot to Meadow Lake has been closed off and is used infrequently for operational needs.



Historic livery stable in a lodgepole pine forest



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

Planning Unit Objective: Preserve and enhance biological and cultural resources, and enhance recreation opportunities 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	<b>Preserve and enhance habitat in order to protect special biological resources.</b>	<ul style="list-style-type: none"> <li>• Conduct surveys of lands outside the FERC boundary to identify biological resources and enable their protection.</li> <li>• Develop a wildlife and habitat management plan for the planning unit.</li> <li>• Develop a noxious weed management plan for areas not included in the FERC-mandated Noxious Weed Plan.</li> <li>• Support future Upper Mokelumne River Watershed Authority efforts to preserve water quality and identify protection and improvement projects that are most critical.</li> <li>• Restrict or formalize dispersed recreation use on the parcel by Deer Creek to protect valuable habitat.**</li> <li>• Formalize or close unauthorized OHV trails to protect biological resources.**</li> <li>• Protect Twin Lake shoreline from vehicle access.**</li> <li>• Manage areas bordering the Mokelumne Wilderness to complement adjacent wilderness values.**</li> </ul>
Preservation of Open Space	<b>Preserve open space in order to protect natural and cultural resources, viewsheds, the recreation setting, and the adjacent wilderness character.</b>	<ul style="list-style-type: none"> <li>• Apply permanent conservation easements to ensure a higher level of open space protection.</li> </ul>
Outdoor Recreation by the General Public	<b>Enhance recreational facilities in order to provide additional education and recreation opportunities consistent with the carrying capacity of the area.</b>	<ul style="list-style-type: none"> <li>• Evaluate adding a new day use area at Upper Blue Lake.**</li> <li>• Evaluate adding trail access between the four lakes.**</li> <li>• Install interpretive signage about the history of hydropower, mining, local rare species, and prehistoric uses in the area.**</li> <li>• Assess the potential for youth program opportunities.</li> </ul>
Sustainable Forestry	<b>Develop and implement forestry practices in order to contribute to a sustainable forest, preserve and enhance habitat, as well as to ensure appropriate fuel load management.</b>	<ul style="list-style-type: none"> <li>• Evaluate existing timber inventory data and supplement as appropriate.</li> <li>• 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.</li> <li>• Develop a fuels management plan to ensure long-term forest health and reduce fuel loading and fire hazard throughout the planning unit.</li> </ul>
Agricultural Uses		None proposed.
Preservation of Historic Values	<b>Identify and manage cultural resources in order to ensure their protection.</b>	<ul style="list-style-type: none"> <li>• Conduct surveys outside the FERC Project APE to identify cultural resources and enable their protection.</li> <li>• Develop a cultural resources management plan for areas not already included in the FERC-mandated Heritage Resources Management Plan.</li> <li>• Coordinate with Native American entities when conducting cultural resource measures.</li> <li>• Formalize or close unauthorized OHV trails to protect cultural resources.**</li> <li>• Restrict or formalize dispersed recreation use on the parcel by Deer Creek to protect cultural resources.**</li> </ul>

\* 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.

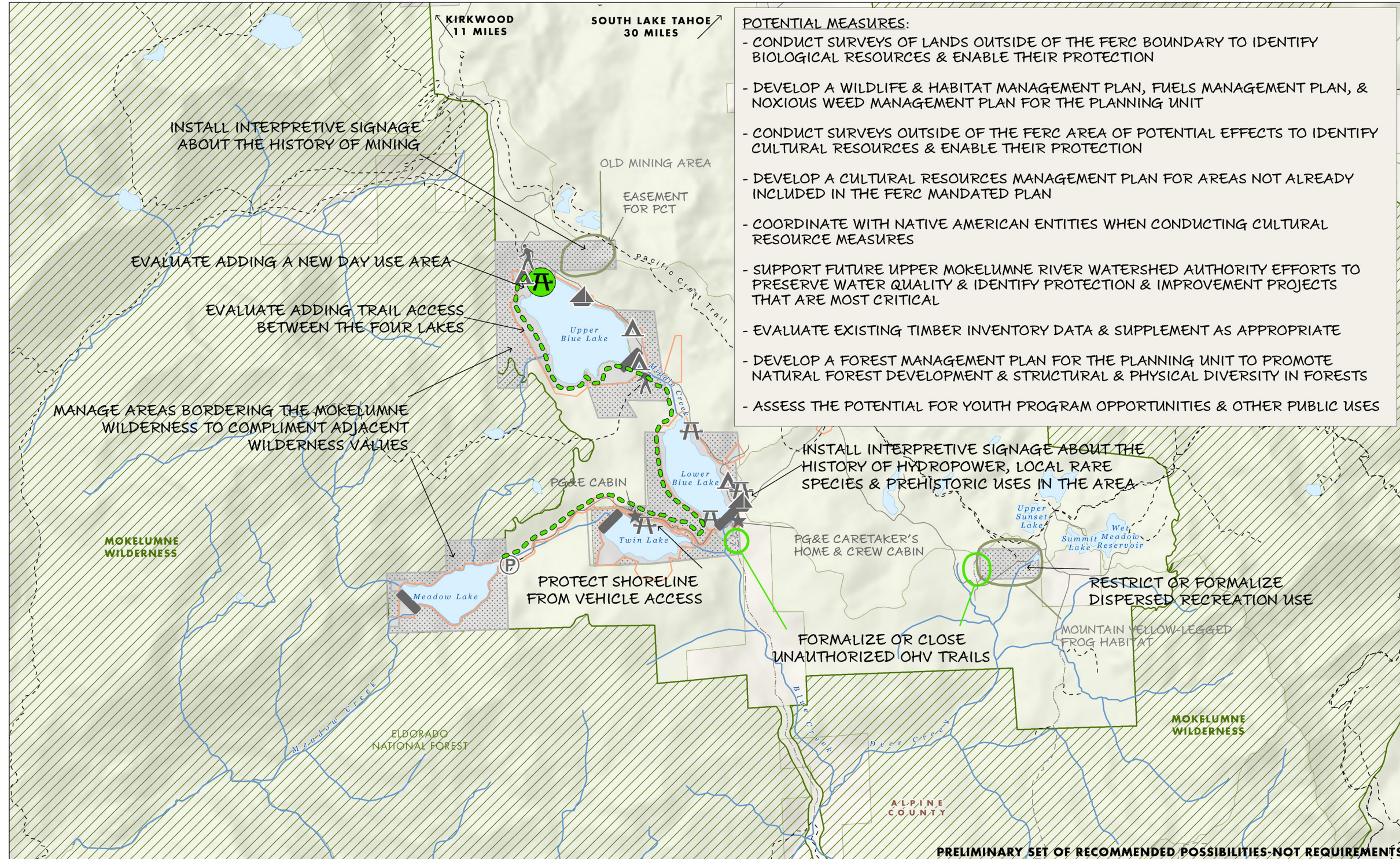
\*\* Denotes site specific measure.



# BLUE LAKES PLANNING UNIT

## Upper Mokelumne River Watershed

Blue Lakes Planning Unit  
Recommended Concept



- POTENTIAL MEASURES:**
- CONDUCT SURVEYS OF LANDS OUTSIDE OF THE FERC BOUNDARY TO IDENTIFY BIOLOGICAL RESOURCES & ENABLE THEIR PROTECTION
  - DEVELOP A WILDLIFE & HABITAT MANAGEMENT PLAN, FUELS MANAGEMENT PLAN, & NOXIOUS WEED MANAGEMENT PLAN FOR THE PLANNING UNIT
  - CONDUCT SURVEYS OUTSIDE OF THE FERC AREA OF POTENTIAL EFFECTS TO IDENTIFY CULTURAL RESOURCES & ENABLE THEIR PROTECTION
  - DEVELOP A CULTURAL RESOURCES MANAGEMENT PLAN FOR AREAS NOT ALREADY INCLUDED IN THE FERC MANDATED PLAN
  - COORDINATE WITH NATIVE AMERICAN ENTITIES WHEN CONDUCTING CULTURAL RESOURCE MEASURES
  - SUPPORT FUTURE UPPER MOKELUMNE RIVER WATERSHED AUTHORITY EFFORTS TO PRESERVE WATER QUALITY & IDENTIFY PROTECTION & IMPROVEMENT PROJECTS THAT ARE MOST CRITICAL
  - EVALUATE EXISTING TIMBER INVENTORY DATA & SUPPLEMENT AS APPROPRIATE
  - DEVELOP A FOREST MANAGEMENT PLAN FOR THE PLANNING UNIT TO PROMOTE NATURAL FOREST DEVELOPMENT & STRUCTURAL & PHYSICAL DIVERSITY IN FORESTS
  - ASSESS THE POTENTIAL FOR YOUTH PROGRAM OPPORTUNITIES & OTHER PUBLIC USES

PRELIMINARY SET OF RECOMMENDED POSSIBILITIES-NOT REQUIREMENTS

<ul style="list-style-type: none"> <li>PG&amp;E Lands Preliminarily Designated for Retention</li> <li>PG&amp;E Lands Preliminarily Designated for Disposition</li> <li>BIA</li> <li>BLM</li> <li>BOR</li> <li>DOD</li> <li>NPS</li> <li>Other/NGO</li> <li>State</li> <li>USFS</li> <li>Federal Wilderness</li> </ul>	<p><b>Concept Features</b></p> <ul style="list-style-type: none"> <li>Modify Existing Feature</li> <li>New Feature</li> <li>Trail</li> </ul>	<p><b>Existing Features</b></p> <ul style="list-style-type: none"> <li>Boat Launch</li> <li>Campground</li> <li>Dam</li> <li>Day Use</li> <li>Feature of Importance</li> <li>Fishing</li> <li>Fish Barrier Dam</li> <li>Gate</li> <li>Lodging</li> <li>Non-Motorized Boating</li> <li>Parking</li> <li>Powerhouse</li> <li>Private Camp</li> <li>Ranch</li> <li>Trailhead</li> <li>Whitewater Put-In/Take-Out</li> </ul>	<ul style="list-style-type: none"> <li>FERC Boundary</li> <li>Stream / River</li> <li>Canal / Ditch</li> <li>Pipeline</li> <li>Primary Roads</li> <li>Secondary Roads</li> <li>OHV Roads</li> <li>Trail</li> </ul>
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Figure UM-2





## Blue Lakes Planning Unit

### Outdoor Recreation

Existing recreation opportunities would continue, and several new and enhanced recreation opportunities are recommended. The Blue Lakes area has a 1,000 Persons at One Time (PAOT) capacity, as designated during relicensing for the new Mokelumne Project FERC License. Recommended facilities are not intended to greatly increase the number of users in this area, but rather are intended to enhance the recreation experience for existing visitors.

#### Potential Measure:

- *Evaluate adding a new day use area at Upper Blue Lake.*

Measures to enhance the recreation experience in the Blue Lakes area include evaluating the addition of a formal day use area at Upper Blue Lake where none currently exists. Developed day use facilities are currently available at Lower Blue Lake and Twin Lake; however, Upper Blue Lake currently only provides developed overnight accommodations. Boating, fishing, and swimming currently occur at Upper Blue Lake, indicating that there may be a need for a formalized day use area. Prior to implementation, studies would need to be completed to evaluate the need for such a facility as well as determine if a suitable location exists. Studies would also need to determine if associated parking needs would be able to be accommodated in this area as well as if the established PAOT for Blue Lakes would be affected by the addition of a new day use area.

#### Potential Measure:

- *Evaluate adding trail access between the four lakes.*

In addition to evaluating a new day use area at Upper Blue Lake, the Stewardship Council recommends evaluating the addition of trail access connecting all four lakes. Although hiking takes place throughout this area, there are no designated trails fully connecting the lakes. If the USFS is amenable to this idea, cooperation with the agency would be necessary as a trail connecting the four lakes would cross over USFS lands. Such a trail would provide an additional formalized day use opportunity for visitors as well as discourage vehicular use when traveling from lake to lake. Existing trail segments around the lakes could be incorporated into this recommended trail network. Due to the presence of cultural sites near the shorelines of these lakes, the area should be surveyed for cultural resources prior to implementation. An assessment should also be conducted to ensure that the new trail would not restrict wildlife access to the water or substantially decrease habitat connectivity. The western/northern shores of the lakes should be maintained for viewshed, and additional recreation should not be encouraged if sensitive cultural resources and/or habitat are identified.

#### Potential Measure:

- *Assess the potential for youth program opportunities.*

Due to the outstanding opportunities to see and learn about rare species and prehistoric and historic uses in the Blue Lakes area, there are likely excellent opportunities to educate youth on a variety of topics within the planning unit. The adjacent Mokelumne Wilderness provides a similar learning opportunity. Therefore, the Stewardship Council recommends assessing the

potential for programs to teach youth about topics such as wildlife and botanical resources, including threatened and endangered species, as well as cultural resources.

**Potential Measure:**

- *Install interpretive signage about the history of hydropower, mining, local rare species, and prehistoric uses in the area.*

The Stewardship Council also recommends the addition of interpretive signage or displays depicting the history of mining activities, hydropower, prehistoric uses, and rare species found in the Blue Lakes area. This measure would educate the public about some of the values that make this area special and enhance their enjoyment and appreciation of those values. The addition of interpretive features could also encourage better stewardship of the area. Appropriate maintenance and updating of signage would be required to minimize potential vandalism and ensure that the content is current.

## **Fish, Plant, and Wildlife Habitat**

Recommendations also include measures to protect habitat and cultural resources from potential damage due to existing, high volume recreation use.

**Potential Measure:**

- *Protect Twin Lake shoreline from vehicle access.*

Management of recreation uses would include protection of the shoreline at Twin Lake from vehicle access using boulders or revegetation, if appropriate. Although boulders are already used to restrict vehicle access to specific areas, the Twin Lake shoreline requires additional deterrents to keep vehicles away from the lake.

**Potential Measures:**

- *Formalize or close unauthorized OHV trails to protect biological resources.*
- *Formalize or close unauthorized OHV trails to protect cultural resources.*

The Stewardship Council recommends either formalize or close unauthorized OHV trails within the planning unit to protect sensitive resources and reduce erosion and sedimentation. The USFS has mapped unauthorized OHV trails on their lands and on surrounding lands. Unauthorized OHV trails on this planning unit often cross from PG&E to USFS lands; therefore, decisions to either formalize or close these trails should be made jointly. The USFS has not yet made decisions regarding formalizing or closure of unauthorized OHV routes on USFS lands, so the Stewardship Council recommends coordination with the USFS on any OHV route decisions to create consistency in management. If it is determined that unauthorized OHV trails are to be closed, vehicles should be restricted to established roads and damaged areas should be revegetated. Measures should be taken to continue to manage unauthorized uses through the use of gates, bouldering, revegetating of closed trails, as well as signage. Monitoring and continued management of OHV use would help control unauthorized uses in the future. Management of unauthorized OHV trails would reduce potential sources of road sediment and thereby protect water quality, biological resources, and cultural resources.



**Potential Measures:**

- *Restrict or formalize dispersed recreation use on the parcel by Deer Creek to protect valuable habitat.*
- *Restrict or formalize dispersed recreation use on the parcel by Deer Creek to protect cultural resources.*

The Stewardship Council also recommends formalizing or restricting informal recreation uses occurring on the parcel by Deer Creek. Informal recreation uses in this area include user-created trails, informal trailheads, and unofficial parking areas. Formalizing these uses could clarify appropriate recreation practices as well as protect cultural resources and sensitive habitat. Formalizing these uses could accommodate this apparent recreation need while deterring people from potentially destructive behavior in sensitive areas. Alternately, informal recreation uses could be restricted by revegetating and bouldering informal recreation sites where appropriate and posting signage to notify recreationists of this restriction. Formalizing or restricting dispersed use is recommended to protect this area's sensitive and valuable habitat as well as cultural resources. Studies should be conducted to determine the appropriate way to handle this informal use.

**Potential Measure:**

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

In addition to managing recreation use to protect habitat values, the Stewardship Council recommends supporting future Upper Mokelumne River Watershed Authority (UMRWA) efforts at 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:**

- *Manage areas bordering the Mokelumne Wilderness to complement adjacent wilderness values.*

It is recommended that the areas bordering the Mokelumne Wilderness be managed to complement the surrounding wilderness values of the Mokelumne Wilderness and to protect its high value resources. This would include managing recreation as primitive, not allowing motor vehicle use, protecting cultural resources, maintaining a visual quality of preservation (e.g., any trails and other related improvements should be designed to be as obscure as possible), maintaining natural condition of timber stands, and generally preserving the wilderness character of the land. Conservation easements would describe all prohibited uses 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.

**Potential Measures:**

- *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.*

Though many biological resources studies were conducted for the Mokelumne River Project relicensing, these studies likely focused only on resources within the FERC boundary. Therefore, the Stewardship Council recommends conducting surveys of the planning unit, particularly for lands outside the FERC boundary, to identify biological resources and enable their protection. The Stewardship Council also recommends using biological resource survey data to create a wildlife and habitat management plan. The planning unit contains potential habitat for several special status species including pine marten, mountain yellow-legged frog, and Yosemite toad, and recommended surveys may reveal additional special status plants and wildlife. Once recommended surveys are completed, potential habitat enhancements and restoration opportunities can be identified and developed into a comprehensive plan describing goals and objectives for habitat and species, as well as measures needed to enhance and protect habitat for both plant and wildlife species. 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 noxious weed, forest, and fuels management plans.

**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 River Project FERC License Order. This plan was prepared in 2002 and approved by the Eldorado National Forest. The noxious weed survey area included USFS land inside the FERC boundary as well as adjacent PG&E FERC lands. The Stewardship Council recommends preparation and implementation of a noxious weed management plan for those 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 management, and wildlife and habitat management plans.

**Preservation of Historic Values****Potential Measures:**

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

It is likely that cultural resources surveys conducted for relicensing efforts were limited to the Area of Potential Effects (APE) for the FERC Project, 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 local 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 relicensing, it only includes 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 the area not included in the FERC license required HRMP to ensure that cultural resources are provided adequate protection in the future. The plan would include appropriate measures for the identification, evaluation, and treatment of cultural resources (archaeological and historical), as well as traditional use areas. Treatment measures could include avoidance, specific protective measures (e.g., fencing), site monitoring, and methods to preserve, restore, or enhance cultural resource values. Other means include conservation easements, management agreements, and public interpretation and education programs. Recreation, vandalism, and erosion within this planning unit have the potential to impact cultural sites; the recommended cultural resources management plan would seek to minimize this impact in the future. Development of the cultural resources management plan should be consistent with the existing FERC license required HRMP and should be coordinated with local Native American entities.

## 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 and through management of areas bordering on the Mokelumne Wilderness to complement adjacent wilderness values.

## 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.*

Although some timber resources are present on the lands surrounding Blue Lakes, current management has been limited to fuels management and salvage timber management. Due to potential conflicts with existing recreation activities and delicate high elevation habitat, sustainable forestry is only recommended to enhance habitat and provide fuels management. 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 integrated 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. The forest management plan should be completed in conjunction with the fuels, noxious weed, and wildlife and habitat management plans. As the Blue Lakes area is currently managed under the Salvage prescription by PG&E, snags and downed woody debris would be maintained in the planning unit

where not deemed a safety, fire, or disease hazard as these are important components for wildlife habitat and forest regeneration.

**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 fire risk in this planning unit. Therefore, the Stewardship Council recommends developing a fuels management plan for this planning unit. The fuels management 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 integrated approach to the forest, habitat, and recreation resources in this area. This plan should be completed in conjunction with the noxious weed, forest management, and wildlife and habitat management plans.

**Agricultural Uses**

None recommended.