



# Mountain Meadows Conservancy

PO Box 40 • Westwood, California • 96137-0040

## FULL PROPOSAL TO PLUMAS WATERSHED FORUM: MOUNTAIN MEADOWS WATERSHED RESTORATION ACTION PLAN

1. **Project Name:** Mountain Meadows Watershed Restoration Action Plan (MM WRAP)
2. **County:** Lassen
3. **Project Number:**
4. **Project Sponsor:** Mountain Meadows Conservancy, in partnership with the Westwood Community Services District, Westwood Museum Foundation, Honey Lake Maidu, California Department of Fish and Game, Trust for Public Land, Pacific Gas and Electric, and The Sierra Fund
5. **Date:** March 25, 2009
6. **Sponsor's Phone Number:** 530.256.3982
7. **Applicant Capability:** Founded in 2001, the Mountain Meadows Conservancy (MMC) is a non-profit organization focused on developing and implementing creative solutions to achieve lasting protection for the Mountain Meadows Basin through environmental restoration, voluntary land acquisitions, and development of economic and recreational resources consistent with the General Plan of Lassen County. MMC works in close partnership with numerous public and private agencies, including the California Department of Fish and Game, Sierra Nevada Conservancy and the Westwood Community Services District. Among others, the Sierra Nevada Conservancy is a recurring funder of MMC's multi-phase Robber's Creek Restoration Project.
8. **Sponsor's Email:** [mmc@mtnmeadows.org](mailto:mmc@mtnmeadows.org); [shawngarvey@sbcglobal.net](mailto:shawngarvey@sbcglobal.net)
9. **Project Location:** See Attachment D: Project Location Maps.
  - a. **National Forest:** Lassen
  - b. **Forest Service District:** Almanor
  - c. **State/Private/Other Lands Involved?** Nearly 50 percent of the 130,000 acre watershed is owned and managed by the Lassen National Forest. The Project Area includes 58,652 acres identified in the state approved Mountain Meadows Conservancy Conceptual Area Protection Plan (CAPP). Major landowners include Pacific Gas & Electric, Sierra Pacific Industries, Westwood Community Service District and the Walker Family Trusts (Hatch 1987 Revocable Trust & Red River Forest Partnership), William S. Keeler Trust (101 Ranch), Elden Stroing and Stroing Family trusts. A critical property for restoration is the 6,336 acres owned by PG&E, which is evaluating the opportunity to transfer easements and 14 acres fee title to Mountain Meadows Conservancy or other conservation partners for long term management and restoration.
  - d. **Legal Location:** R8E to R1E and T27N to T29N

**10. Justification, Goals and Objectives:** The Mountain Meadows Watershed is a distinctly important watershed in the Sierra Nevada critically important as the headwaters of the North Fork of the Feather River. The 130,000 acre watershed contains one of the largest remaining examples of montane meadow in the state of California, and due to the large size of the meadow complex, the relatively undisturbed condition of the upper watershed, and the relative lack of development in and around the meadow system itself, the potential for large scale meadow, stream and forest restoration is exceptional.

Recognizing the importance of the Mountain Meadows watershed, the California Department of Fish and Game approved in summer, 2006 the Mountain Meadows Conceptual Area Protection Plan (CAPP), which identified approximately 13,000 of the watershed's 59,000 privately owned acres for conservation acquisition. The CAPP furthermore called for a restoration plan, since designated the Mountain Meadows Watershed Restoration Action Plan (MM WRAP).

When complete, the MM WRAP will detail specific desired outcomes and the restoration and implementation strategies required to achieve those outcomes in this important watershed. These outcomes and strategies directly support the goals of the Monterey Settlement and the priorities of the Watershed Management Strategy and include the following:

- A. Protect and restore the extensive wet meadow, montane riparian, and fresh emergent wetland habitats** that support a diverse assemblage of rare wildlife and plant species, such as the state-endangered willow flycatcher and bald eagle, and state-threatened Sierra Nevada red fox and greater sandhill crane. Approximately 8,000 acres of wet meadow, 2,000 acres of fresh emergent wetland, and 60 stream-miles of montane riparian habitat occur within the watershed. *These habitats support 7 threatened and endangered species, 22 species of special concern, and 4 rare plant species.*
- B. Provide specific habitat protection and improvements to aid in the removal of the willow flycatcher from the California endangered species list.** The Conceptual Area supports up to 12 breeding pairs of willow flycatchers, and with riparian/stream protection and restoration, has potential for many more. This represents one of the largest remaining populations of willow flycatchers in northern California. *Of note is that the Department already owns 3.23 acres of willow flycatcher habitat lands along Robbers Creek in Westwood.*
- C. Maintain and manage anticipated increases in public use of fish and wildlife resources on site,** including recreational fishing, hunting, birding, and a variety of other outdoor recreational uses.
- D. Create a landscape-scale protected area to offset impacts to fish, wildlife, and plant communities from damaging rangeland management practices, forest practices and water developments.**
- E. Protect important Maidu Indian cultural resources,** including burial, sacred, and village sites.
- F. Protect critical movement corridors and habitat connectivity** for a variety of wildlife species. The Biological Resources Division (BRD) of the USGS and The Nature Conservancy (TNC) have identified Mountain Meadows as a critical movement

corridor for various wildlife species, such as pine marten, black bear, northern goshawk, and mountain lion and the Project Area is classified as an “Audubon Important Bird Area” by the Audubon Society.

**11. Project Description:** To create a Mountain Meadows Watershed Restoration Action Plan (MM WRAP) for the 130,000 acre Mountain Meadows Watershed utilizing a collaborative Watershed Collaboration Team (WCT) of public and private partners. The WCT is responsible for developing, coordinating and directing watershed restoration actions that support an environmentally and economically healthy Mountain Meadows watershed.

Generally, the MM WRAP will consist of three stages:

- Stage 1. Through CWT meetings, uncover concerns, gather and analyze information and data, define challenges and opportunities, develop objectives, document data and decisions.
- Stage 2. Develop a draft WRAP that addresses objectives, selects best watershed management alternatives, lists strategies for implementing selected alternatives and determines how to measure progress.
- Stage 3. Finalize the MM WRAP and release for public review. Identify implementation and evaluation efforts for short, mid and long term restoration projects. Identify cost estimates for implementation options and potential public and private funding partners.

See Attachment C: Project Work Plan and Schedule for a detailed presentation of objectives and tasks of the MM WRAP.

**12. Coordination with other related projects on adjacent lands?** The MM WRAP will coordinate objectives and outcomes with other related projects that affect or include the Mountain Meadows watershed, including but not limited to:

- **The Red River Lumber Company Westwood Mill Site Reuse Analysis**, adopted by the Lassen County Board of Supervisors.
- **The Robber’s Creek Mill Re-Use Plan Phase I and II**, implemented by the Mountain Meadows Conservancy and funded in partnership with the Sierra Nevada Conservancy
- **The Robber’s Creek Mill Re-Use Plan Phase III**, proposed by the Mountain Meadows Conservancy and under consideration for funding by the Sierra Nevada Conservancy
- **The Feather River Watershed Management Strategy**, authored by the Plumas County Flood Control and Water Conservation District
- **The Mountain Meadows Conceptual Area Protection Plan**, adopted by the California Department of Fish and Game
- **The Lassen County General Plan**

**13. How does project meet purposes of the Monterey Settlement?** The Mountain Meadows Watershed Restoration Action Plan (MM WRAP) fulfills critical objectives of the Monterey Settlement. Through development and implementation of the detailed Watershed Restoration Action Plan called for in the Mountain Meadow Conceptual Area Protection Plan

(CAPP) approved by the California Department of Fish and Game, the MM WRAP, when fully implemented, will result in measurable improvements in watershed function, including:

- Improving water quality and stream bank protection by implementation of best management practices for grazing throughout the basin and restoration of up to 6 miles of streams and watersheds heavily damaged by past grazing and resource management practices;
- Improving stream condition in Mountain Meadows basin to reduce erosion, increase aquifer storage, retain water to improve summer base flows, and improve and restore riparian vegetation;
- Improving water quality by implementing Robber's Creek Mill Site Re-Use Plan that includes wetland, sediment and soils clean-up of a mill that was once the largest in the nation;
- Improvement of upland vegetation management through meadow restoration and changes in forestland and forest management practices; and
- Implementation of restoration projects to improve retention of water to augment base flow.

**14. Project Type:** The MM WRAP will include a focused Implementation Plan that includes Type 1, Type 2 and Type 3 Projects.

**15. Measure of project accomplishments/expected outcomes.** The MM WRAP is an exceptional opportunity for the Plumas Watershed Forum to fund a project that will create unprecedented opportunities for community dialogue, engagement and partnership in and around the community of Westwood. Westwood qualifies as an "economically disadvantaged community" and by many measures (unemployment, job creation, AFDC, tax revenues) is one of the most economically challenged communities in the Sierra Nevada. This opportunity to bring together economic, environmental and tribal interests in and of itself is an historic one.

The MM WRAP, when completed, will detail a plan of restoration and recreational implementation actions that will substantially support, build and further develop community capacity. Specific Project Deliverables include:

- A. A complete Mountain Meadows Watershed Restoration Action Plan
- B. A Mountain Meadows Collaborative Watershed Team, including public agencies, NGOs and private landowners
- C. Performance Measures
- D. An Outreach Plan that can serve as a model for small watershed collaborative processes in the Sierra Nevada that includes non traditional partners, schools, private property owners and business groups
- E. At least 5 public announcements and press releases
- F. GIS, maps and data characterizing existing and proposed conditions for the Mountain Meadows watershed
- G. A brochure, photos and video documenting the MM WRAP process
- H. A Final Report

**16. Estimated Start Date:** July 1, 2009

**17. Estimated Completion Date:** July 31, 2010

**18. Proposed Methods of Accomplishment:** MMC will manage and coordinate the

implementation of the WRAP Work Plan (attached), in partnership with the Mountain Meadows Watershed Collaboration Team, consisting of 9 public agencies and several major property owners in the watershed. The Lassen National Forest will provide mapping and GIS functions for the Team and a local contract Restoration Consultant will detail and target implementable restoration and BMP practices.

**19. Anticipated Project Costs:** \$68,000 Total. \$25,000 is requested from the Plumas Watershed Forum. Additional matched funds are confirmed.

**20. Identify other sources of funding:** To implement the MM WRAP, Mountain Meadows Conservancy has been approved for matching funds of \$30,000 by the private foundation *WildSpaces*. These funds will be delivered to MMC in May, 2009 and be dedicated to public outreach and community education, collaboration and partnership expenses, management and administration. The Lassen National Forest will coordinate GIS and mapping functions with an estimated value of \$7,500. The Westwood Community Services District and the Westwood Museum will also contribute approximately \$1,500 each in technical services and community outreach. The earlier CAPP Phase of this project was completed with private contributed funds in 2007, with the support of California Department of Fish and Game. The total costs of the CAPP Phase was \$12,000. Additionally, the Sierra Nevada Conservancy has previously awarded funds of \$48,000 for the implementation of Phase 1 and Phase 2 of the Robber's Creek Mill Restoration Project, a critical area of the Mountain Meadows Watershed that is included in this WRAP.

**21. Monitoring Plan:** Monitoring of this Project will occur by the partners in the Mountain Meadows Watershed Collaboration Team and will be reported on a monthly basis utilizing the attached MMC WRAP Work Plan to the Plumas Watershed Forum and the private funder. Also, a deliverable of the MM WRAP will be a recommendation establishing parameters and protocols for a long term water quality and watershed health monitoring program.

**22. Failure to comply with the terms of the agreement.** If the MM WRAP is not implemented by December, 2009 funding for this project will be returned to the Plumas Watershed Forum. MMC has completed a number of publicly and privately funded conservation and restoration contracts since 2001 and is well qualified to complete this work.

**23. Landowner Agreement:** Major private landowners in the watershed are considered to be partners on the Mountain Meadows Watershed Collaboration Team. Key property owners, including the Westwood Community Services District, have endorsed this proposal. While assessment and characterization functions of the MM WRAP do not require landowner participation or agreement, future recommended restoration actions in the MM WRAP will and the Collaboration Team will make recommendations for future action only with landowner agreement.

## A. Status of Project Planning Worksheet

a. NEPA* and/or CEQA* Complete:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable.
b. If no, give est. date of completion:			
c. NMFS* Sec. 7 ESA Consultation Complete:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
d. USFWS* Sec. 7 ESA Consultation Complete:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
e. RWQCB/CDFG* Permits for In-stream Work Obtained:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
f. RWQCB/COE* 401/404 Fill/Removal Permit Obtained:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
g. SHPO* Concurrence Received:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
h. Project Design(s) Completed:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Not Applicable
i. FEMA/NFIP Compliance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
j. Local/Regional Permits & Regulatory Compliance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
<p>* NEPA = National Environmental Policy Act, CEQA = California Environmental Quality Act, NMFS = National Marine Fisheries Service, USFWS = United States Fish &amp; Wildlife Service, RWRCB = Regional Water Quality Control Board, CDFG = CA Dept. of Fish &amp; Game, COE = Army Corps of Engineers, SHPO = State Historic Preservation Officer, FEMA = Federal Emergency Management Agency; NFIP = National Flood Insurance Program</p>			

## B. Project Cost Analysis

Item	<i>Column A</i> Mountain Meadows Conservancy Contribution	<i>Column B</i> Requested Watershed Forum Funds	<i>Column C</i> Other Contributions	<i>Column D</i> Total Available Funds
a. Field Work & Site Surveys		\$ 9,000		\$ 9,000
b. NEPA/CEQA & Sec 7 ESA Consultation				
c. Permit Acquisition				
d. Project Design & Engineering	\$ 10,000	\$ 5,000	\$ 7,500	\$ 22,500
e. Contract Preparation				
f. Contract Administration	\$ 3,000			\$ 3,000
g. Contract Cost		\$ 6,000		\$ 6,000
h. Workforce Cost	\$ 15,000	\$ 5,000		\$ 20,000
i. Materials & Supplies	\$ 2,000			\$ 2,000
j. Monitoring			\$ 2,500	\$ 2,500
k. Other			\$ 3,000	\$ 3,000
l. Indirect Costs				
<b>Total Cost Estimate</b>	\$ 30,000	\$ 25,000	\$ 13,000	\$ 68,000

## C. Attachment: Project Work Plan and Schedule

The Executive Director of the Mountain Meadows Conservancy will be responsible for directing and managing the implementation of the following Work Plan. It is anticipated that a Restoration Consultant, under Contract to MMC, will coordinate recommendations for restoration and BMP projects in partnership with public and private entities. The collaborative Mountain Meadows Watershed Collaboration Team will oversee public outreach, agency outreach, characterization and assessment functions.

The schedule for this project is based on an assumption that work will start 60 days after the award of a grant by the Plumas Watershed Forum. Tasks related to Project Management, Monitoring, and Community Education will be implemented in sequential order according to the below Work Plan. It is estimated that the full project will take between 180 and 240 days from inception to completion.

**Objective:** To create a Watershed Restoration Action Plan (WRAP) for the 130,000 acre Mountain Meadows Watershed utilizing a collaborative Watershed Collaboration Team (WCT) of public and private partners. The WCT is responsible for developing, coordinating and directing watershed restoration actions that support an environmentally and economically healthy Mountain Meadows watershed.

Generally, the MM WRAP will consist of three stages:

Stage 1. Through CWT meetings, uncover concerns, gather and analyze information and data, define challenges and opportunities, develop objectives, document data and decisions.

Stage 2. Develop a draft WRAP that addresses objectives, selects best watershed management alternatives, lists strategies for implementing selected alternatives and determines how to measure progress.

Stage 3. Finalize the MM WRAP and release for public review. Identify implementation and evaluation efforts for short, mid and long term restoration projects. Identify cost estimates for implementation options and potential public and private funding partners.

### **Task 1: Project Management (throughout project)**

MMC will play the lead role in general project management, including fiscal reporting.

- 1.1 Convene MM Collaborative Watershed Team (CWT). The CWT includes the Westwood Community Services District, Westwood Museum Foundation, Honey Lake Maidu, California Department of Fish and Game, Trust for Public Land, Pacific Gas and Electric, The Sierra Fund, the Cheney Foundation and any other public and private stakeholder individual or organization
- 1.2 Identify and invite key additional partners and collaborators
- 1.3 Finalize Project Workplan
- 1.4 Finalize Subcontracts
- 1.5 Prepare Invoices

### **Task 2: Project Monitoring and Performance Measures (throughout project)**



MMC, in collaboration with the CWT, will develop Project Monitoring and Performance Measures to track progress towards the project goals and desired outcomes. Data will be collected prior to performance of Implementation Tasks, after Implementation Tasks are performed, and annually for ten years at the Project Site.

- 2.1 Present Draft Performance Measures to CWT
- 2.2 Finalize Performance Measures
- 2.3 Track and Report Project Outcomes and Evaluate them according to the Performance Measures
- 2.4 Adapt Project Based on Results of Monitoring

**Task 3: Hold a series of at least six public meetings at the Westwood Community Services District for local partners, agencies, schools and the media.**

MMC and the CWT will convene a minimum of six times in the Contract Period to two onsite presentations for members of the public, partners and the local and regional elected and media to utilize the project for education.

- 3.1. Develop Outreach Plan, include: CWT members, public, schedule of meetings. Target new and previously un- or under-represented constituencies, including schools, business organizations and county agencies
- 3.2. Identify invitees to public presentations
- 3.3. Draft and release press notification
- 3.4. In Meetings #1 and #2, identify mutually held interests, challenges, objectives, and concerns of the members of the CWT and members of the public

**Task 4: Assessment: Identify and Collect all relevant information and data**

The CWT will coordinate the identification and collection of all relevant environmental, economic, recreational, development and cultural information.

- 4.1 Collect information regarding boundaries (including public and private), terrain, water bodies, soil types, roads, land uses, active grazing, farming and forestry uses, recreational uses, Fish and Game surveys, development trends and proposals, employment trends, education trends. (CWT, in coordination with Lassen National Forest and NRCS)
- 4.2 In CWT Meetings #3 and #4, identify full range of water use designations, including high contact water use (swimming), minimal contact recreation (fishing and boating), agriculture (irrigation and livestock), industrial, drinking water supply, aquatic life
- 4.3 Identify challenges and opportunities
- 4.4 Develop maps and GIS data for preliminary presentation and discussion by CWT

**Task 5: Establish Objectives**

MMC and the CWT will establish objectives detailing environmental and economic goals of the WRAP, stakeholder participation, legal constraints, objectives in measurable terms (increase Willow Flycatcher population by 50 percent, restore 6 miles of tributary creeks and headwaters streams)

- 5.1 CWT will consider, develop and affirm key objectives of the MM WRAP
- 5.2 Select Management Alternatives, including but not limited to grazing control or modification, restoration of streams and creeks impacted by headcutting, contour strips, erosion control, native plant revegetation, pest management, forestry, irrigation

water conservation, waste system management, enterprise or economic zones, road maintenance and obliteration, dam modification or operation, streambank stabilization, wetlands construction or restoration, recreational development and construction, and riparian zone management.

**Task 6: Develop the Action Plan**

Utilizing the information and partnerships above, the CWT will develop and propose a Watershed Restoration Action Plan.

- 6.1 Evaluate elements of the Action Plan, including demonstration projects on public and private lands, watershed tours, workshops, public information campaigns, cost sharing
- 6.2 Present elements of the Action Plan in a public meeting that includes members of the CWT
- 6.3 The Plan will include the following:

Selected Alternative	Action	Responsible	Time Frame	Cost
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- 6.4 Develop project measurables, including stream inventory, water quality measurements, wildlife inventory, fishing and hunting licenses, recreational use, economic activity, acres managed using BMP, riparian, wetland and meadow acres restored, creek miles restored, bacterial surveys
- 6.5 Develop management alternatives that will help the CWT achieve its objectives.
- 6.6 Prioritize and recommend management alternatives considering public support, viability, and economic, social and environmental factors

**Task 7: Implementation**

Utilizing the implementation priorities in Task 6, the CWT will coordinate and manage implementation of the MM WRAP.

- 7.1 Identify partner agencies that will provide technical or financial assistance to private property owners
- 7.2 Implement public outreach, information and education in support of the MM WRAP
- 7.3 Identify Public and Private funding opportunities
- 7.4 Manage and coordinate public and private funding solicitations
- 7.5 Implement high profile restoration projects

**Task 8. After implementation, hold 2 presentations at the Project Site for local partners, agencies, schools and the media.**

MMC and CWT will hold two onsite presentations for members of the public, partners and the local and regional electeds and media to utilize the project for education.

- 8.1 Identify invitees to public presentations
- 8.2 Draft and release press notification

**Task 9. Prepare short brochure and web-based presentation documenting the success of the WRAP process.**

- 9.1 Draft and release press notification
- 9.2 Prepare information and photos collected during MM WRAP process

9.3 Upload video and photography to website, including [www.youtube.com](http://www.youtube.com), for mass availability

**Task 10. Create volunteer team to annually monitor and record fisheries, sediment and gravel, visual assessment to quantify and qualify restoration progress.**

10.1 Solicit public citizens, board members, agency representatives and others to annually monitor and record information critical to measuring the health of the Mountain Meadows watershed

10.2 Prepare information for public release

**Task 11: Reporting (throughout project)**

MMC will submit all progress reports as required by the Plumas Watershed Forum. Reports will highlight project successes, flag any emerging issues, and describe all proposed actions to address these issues. In addition, MMC will integrate the results of the project described above into a Final Report that: 1) reports on agreed upon Performance Measures; 2) documents the outcomes and processes of MM WRAP; and 3) provide the Action Plan.

11.1 Draft Monthly Progress Reports

11.2 Identify and Report Problem Issues and Describe Proposed Actions

11.3 Draft Final Report and Disseminate for Comments

11.4 Finalize Final Report

# ATTACHMENT D: Approved California Department of Fish and Game CAPP

State of California  
The Resources Agency  
DEPARTMENT OF FISH AND GAME

## CONCEPTUAL AREA PROTECTION PLAN and GRANT APPLICATION

### MOUNTAIN MEADOWS LASSEN COUNTY, CALIFORNIA

1. **SITE NAME** Mountain Meadows, located in Lassen County, California.

1. **SUMMARY**

The Mountain Meadows Conceptual Area contains wetlands, wet meadows, montane riparian streams, mature and second growth fir and pine forests, and grass/sage uplands that drain into the North Fork of the Feather River. Straddling the Sierra-Cascade divide at an elevation range of 5,000 to 7,500 feet, this area is one of the few remaining large, undeveloped complexes of meadow, wetland, and coniferous forest in California. The Conceptual Area totals 58,652 acres, all of which is privately held. Fee title acquisition is recommended on approximately 13,389 acres, with most of the remaining acreage proposed to be protected with a combination of purchased and donated conservation easements (Appendix I).

The primary purpose of the plan is to protect and restore the extensive wet meadow, montane riparian, and fresh emergent wetland habitats that support a diverse assemblage of rare wildlife and plant species, such as the state-endangered willow flycatcher and bald eagle, and the state-threatened Sierra Nevada red fox and greater sandhill crane. Approximately 8,000 acres of wet meadow, 2,000 acres of fresh emergent wetland, and 60 stream-miles of montane riparian habitat occur within the Conceptual Area. In total, these habitats support 7 threatened and endangered species, 22 species of special concern, and 4 rare plants (Appendix II). Additional purposes are: (1) to provide specific habitat protection and improvements to aid in the removal of the willow flycatcher from the California endangered species list; (2) to maintain and manage anticipated increases in public uses of fish and wildlife resources on site; (3) to create a landscape-scale protected area to offset impacts to fish, wildlife, and plant communities from water developments and year-round resort complexes in the northern Sierra Nevada; (4) to protect important Maidu Indian cultural resources, including burial, sacred, and village sites; (5) to protect critical movement corridors and habitat connectivity for a variety of wildlife species; and (6) to maintain the spectacular scenic viewsheds of Mountain Meadows and surrounding mountains along Scenic State Highway 36. As these purposes suggest, the public benefits of protecting the Mountain Meadows Conceptual Area are exceptional.

Land ownership within the Conceptual Area is currently dominated by a few large landholdings (Appendix III). In fact, the 6 largest holdings account for approximately 98% of all private land in the Conceptual Area. This blocked pattern of ownership creates the opportunity for landscape-scale land conservation and helps focus protection efforts. Pacific Gas and Electric's (PG&E) 6,336-acre property, which includes Mountain Meadows Reservoir and extensive wetlands and meadows, is the top priority for protection.

If the Department is unable to own and manage land within the Conceptual Area, private ownership and management is a distinct possibility. Broad scale support for habitat protection at this site is exceptional. A recent poll shows that 75% of the local population supports habitat protection and management at Mountain Meadows Reservoir and the surrounding meadow complexes (Mountain Meadows). In addition, at least 24 local, state, and national conservation and cultural organizations

have expressed support and interest (see Section 5.5). Several of these organizations have indicated that they are prepared to enter into joint management agreements in order to help in future management and public use. Several partners have also indicated a willingness to participate in future management costs.

A four seasons resort complex with 3,500 housing units has been proposed within the Conceptual Area and the threat of large-scale development has increased interest in protection of fish and wildlife habitats and recreational uses in the Mountain Meadows Basin. At build out, the resort (Dyer Mountain) would encompass 2,255 acres, including 3 golf courses and 8 ski lifts. The large size of the proposed development, and its potential to spawn additional development and increased water and recreational use, threaten the biological integrity of the Mountain Meadows Basin.

## **2. GEOGRAPHICAL LOCATION AND DESCRIPTION**

The Mountain Meadows Conceptual Area straddles the boundary between the Sierra Nevada and Cascade Mountain Ranges and is located in the vicinity of Westwood, approximately 20 miles southwest of Susanville in southern Lassen County. State Highway 36 bisects the property. The Conceptual Area averages 5,200 feet in elevation, with the highest point on Dyer Mountain at 7,472 feet. The Conceptual Area includes all private land within the Mountain Meadows Basin, an area of approximately 58,652 acres (approximately 66% of the entire basin; see Appendix I). This large, contiguous block of private land is surrounded by Lassen National Forest lands to the north, east, and south, and by private industrial timber land to the west. Topographically, the Conceptual Area is dominated by the large, relatively flat, meadow complex known as Mountain Meadows, and is surrounded by forested uplands dominated by Jeffery pine. Mountain Meadows Basin drains into the Hamilton Branch of the Feather River.

Current economic uses within the Conceptual Area are seasonal livestock grazing, timber production, hydroelectric power production, and one gravel lease (at Round Mountain). Other uses include public fishing, hunting, and a variety of other outdoor recreational activities. Bass fishing and waterfowl hunting at Mountain Meadows Reservoir are especially popular. Most of the Conceptual Area is currently open to public hunting, fishing, and hiking, but not to camping. These uses will not likely continue at current levels without additional protection. Satisfying and managing public demand for recreational uses in a manner that does not decrease fish and wildlife habitat values is a key objective of this plan.

Land ownership within the Mountain Meadows Conceptual Area is dominated by a few large landholdings (Appendix III). In fact, the 6 largest holdings account for approximately 98% of all private land in the Conceptual Area. This CAPP includes 17 properties of interest. A summary of ownerships, assessor's parcel numbers, acreages, and legal descriptions is included in Appendix IV. Very few improvements exist within the Conceptual Area outside the town of Westwood. These improvements include a few ranch houses, corrals, fencing, and the Mountain Meadows Reservoir dam and associated hydropower infrastructure.

## **4. PURPOSE OF ACQUISITION**

The primary purposes of the proposed acquisitions are to:

3. **Protect and restore the extensive wet meadow, montane riparian, and fresh emergent wetland habitats** that support a diverse assemblage of rare wildlife and plant species, such as the state-endangered willow flycatcher and bald eagle, and state-threatened Sierra Nevada red fox and greater sandhill crane. Approximately 8,000 acres of wet meadow, 2,000 acres of fresh emergent wetland, and 60 stream-miles of montane riparian habitat occur within the Conceptual Area. *These habitats support 7 threatened and endangered species, 22 species of special concern, and 4 rare plant species.*
4. **Provide specific habitat protection and improvements to aid in the removal of the willow flycatcher from the California endangered species list.** The Conceptual Area supports up to 12 breeding pairs of willow flycatchers, and with riparian/stream protection

and restoration, has potential for many more. These pairs are found in along Robbers Creek in the vicinity of Westwood. This represents one of the largest remaining populations of willow flycatchers in northern California. *Of note is that the Department already owns 3.23 acres of willow flycatcher habitat lands along Robbers Creek in Westwood. This CAPP nicely complements the Department's existing ownership.*

5. **Maintain and manage anticipated increases in public use of fish and wildlife resources on site**, including recreational fishing, hunting, birding, and a variety of other outdoor recreational uses.
6. **Create a landscape-scale protected area to offset impacts to fish, wildlife, and plant communities from water developments and year-round resort complexes in the northern Sierra Nevada.** Extensive degradation of aquatic and aquatic-associated habitat types has occurred within the Mountain Meadows region due to hydropower development. Proposed large-scale resort developments, such as the 3,500-homesite Dyer Mountain Resort, threaten to further degrade these habitats and the biological resources of the area.
7. **Protect important Maidu Indian cultural resources**, including burial, sacred, and village sites.
8. **Protect critical movement corridors and habitat connectivity for a variety of wildlife species.** The Biological Resources Division (BRD) of the USGS and The Nature Conservancy (TNC) have identified Mountain Meadows as a critical movement corridor for various wildlife species, such as pine marten, black bear, northern goshawk, and mountain lion ("Missing Linkages: Restoring Connectivity to the California Landscape", BRD/TNC, 2001). Of particular importance to protecting this corridor is maintaining forest cover and habitat connectivity across the large block of private land within the Conceptual Area.
9. **Protection of the spectacular scenic viewsheds of Mountain Meadows and surrounding mountains along Scenic State Highway 36.**

Acquisition priorities and protection strategies correspond to the above purposes and are summarized in Table 1 below. The overall protection strategy is to acquire fee title to key meadow, riparian, and wetland parcels, and to protect surrounding undeveloped forest lands with purchased and donated conservation easements. Our protection strategy follows the core/buffer area concept of conservation biology reserve design (Soule 1988). In this case, the meadow, wetland, and riparian habitats serve as the "core" of our reserve design, as they are the most threatened habitats within the Conceptual Area and support the majority of special status species. These sensitive habitats require the additional protection and management control afforded by fee simple ownership. When protected with conservation easements, upland forest parcels will act to "buffer" the meadows, wetlands, and riparian areas to which they drain by protecting water quality, ensuring a natural hydrologic regime (e.g., dampening potentially damaging flood flows), and limiting residential, commercial, and industrial development (see Section 5.6 for recommended easement terms). In addition, these private forest lands provide connectivity across the wide (average = 10 miles) swath of private land that separates the public lands of the Sierra Nevada and Cascade Ranges.

**Table 1. Acquisition priorities and recommended protection strategies\* within Mountain Meadows Conceptual Area.**

Acquisition Priority	Owner/Address	Acres	APN(s)	Strategy and Purposes
1	Pacific Gas and Electric (all non-urban parcels)	6,335.6	123-100-09; 123-110-09, -10; 123-120-03, -05, -08, -09; 123-130-02, -04, -07, -08; 123-150-04; 123-160-01, -03, -05, -08, -09.	Fee title acquisition (preferred) or conservation easement with public access and grazing rights. Helps achieve purposes #1-7 (see p. 3).
2	Robbers Creek Willow Flycatcher Parcels (listed in order of priority) 10. Mid Valley Title Co. 11. John F. Hansler Trustees 12. Lois E. Shanklin 13. H.W. and Adele Wasneechak 14. Harry W. Wasneechak 15. Robert M. Lee	338.6	16. 125-010-41 (148.58 ac) 17. 125-010-11 (133.5 ac) 18. 123-090-09, -18 (22.7 ac) 19. 125-010-37 (11.79 ac) 20. 125-010-38 (15.06 ac) 21. 125-010-40 (ca. 6.96 ac)	Fee title acquisition or donation of fee title/bargain sale. Helps achieve purposes #1-3 (see p. 3).
3	Hatch 1987 Revocable Trust (key meadow, wetland, and riparian parcels)	9,335.3	Non-TPZ Parcels (1,820.4 acres): 113-100-09, -13, -21; 123-090-47, -49, -64; 123-100-19, -22, -26; 123-120-13, -15; 123-130-11, -13; 123-160-24; 127-070-21. TPZ-zoned Parcels (7,514.9 acres): 113-060-07, -09; 113-070-01, -06; 113-090-03, -04, -09, -12; 113-100-01, -20; 115-070-18; 123-090-15, -33; 123-100-17, -24, -27; 123-120-06, -07; 123-130-12; 123-160-02, -20, -26.	Fee title acquisition of non-TPZ parcels; conservation easement on TPZ-zoned parcels. Helps achieve purposes #1-7 (see p. 3).
4	Sierra Pacific Industries (key meadow, wetland, and riparian parcels)	3,616.2	Non-TPZ Parcels (1,328.8 acres): 113-100-16, -18; 123-100-11, -18, -20, -23; 123-130-18. TPZ-zoned Parcels (2,287.4 acres): 113-100-23; 123-100-25.	Fee title acquisition of non-TPZ parcels; conservation easement on TPZ-zoned parcels. Helps achieve purposes #1-7 (see p. 3).
5	Roseburg Resources Co. (key meadow, wetland, and riparian parcels)	3,027.9	TPZ-zoned Parcels: 123-110-13, -17, 18; 123-120-17, -18; 123-150-18.	Conservation easement. Helps achieve purposes #1, 3-7 (see p. 3).
6	William S. Keeler Trust (key meadow)	1,841.6	113-070-07, -08; 113-100-02, -03, -05, -07,	Fee title acquisition (preferred) or

	and riparian parcels)		-08; 115-070-10, -11, -15, -16; 115-120-02, -05.	donated conservation easement. Helps achieve purposes #1-7 (see p. 3).
7	Red River Forests Partnership (key meadow, wetland, and riparian parcels)	1,404.1	Non-TPZ Parcels (1,381.1 acres): 123-100-21; 123-120-01, -02; 123-130-06, -14, -17; 123-160-15, -16, -23; 127-050-09; 127-070-18. TPZ-zoned Parcels (23.0 acres): 123-090-40, -41.	Fee title acquisition of non-TPZ parcels; conservation easement on TPZ-zoned parcels. Helps achieve purposes #1-7 (see p. 3).
8	Elden A. Stroing (key meadow and riparian parcels)	160.93	123-180-09, -10, -11; 127-090-18.	Fee title acquisition (preferred) or donated conservation easement. Helps achieve purposes #1-6 (see p. 3).
9	James L. and K.J. Stroing Revocable Trust (key meadow and riparian parcels)	58.33	127-090-20	Fee title acquisition (preferred) or donated conservation easement. Helps achieve purposes #1-3, 5-6 (see p. 3).
10	Stroing Family Revocable Trust (key meadow and riparian parcels)	57.29	127-090-21	Fee title acquisition (preferred) or donated conservation easement. Helps achieve purposes #1-3, 5-6 (see p. 3).
11	Myrna A. Mohler (key meadow and riparian parcels)	53.2	127-090-19.	Fee title acquisition (preferred) or donated conservation easement. Helps achieve purposes #1-3, 5-6 (see p. 3).
12	Mark R. and Susan L. Coffi	13.33	115-120-04	Donation of fee title or conservation easement. Helps achieve purposes #1 & 7 (see p. 3).
13	Hatch 1987 Revocable Trust (forest parcels)	13,340.4	113-030-05, -06; 113-040-03, -04, -05, -06, -07; 113-060-05, -06, -12, -14; 113-070-02, -03, -04, -05; 113-090-01, -05, -06, -07, -13; 113-100-14, -19, -22; 115-070-17; 115-120-11; 123-090-12, -35, -37, -38, -44, -46, -48, -53, -54, -59, -61; 123-150-05, -07; 123-160-21, -22; 123-180-03, -04; 127-070-24; 127-090-07, -08, -11, -13.	Purchased (most likely) or donated conservation easement. Helps achieve purposes #3-7 (see p. 3).
14	Red River Forests Partnership (forest parcels)	7,330.0	123-020-02, -11, -18, -25, -28, -29, -30; 123-090-50, -55, -56, -57, -60, -81, -82; 123-160-06, -14, -18; 127-010-09; 127-050-03, -04, -06, -07, 10; 127-060-01, -07; 127-070-03, -07, -08, -10, -11, -15, -	Purchased (most likely) or donated conservation easement. Helps achieve purposes #3-7 (see p. 3).



			17, -19, -22, -23; 127-080-01.	
15	Sierra Pacific Industries (forest parcels)	5,886.1	115-120-25, -28; 123-130-10; 123-140-07; 123-160-25; 127-010-12; 127-050-12; 127-090-12.	Purchased or donated conservation easement. Helps achieve purposes #3-7 (see p. 3).
16	Roseburg Resources Co. (forest parcels)	4,949.7	123-020-16, -27; 123-110-05, -12, -14, -15, -16; 123-140-01, -02, -06; 123-150-19.	Purchased (most likely) or donated conservation easement. Helps achieve purposes #3-7 (see p. 3).
17	William S. Keeler Trust (forest and other parcels)	468.4	115-070-12, -13, -14; 115-120-06, -31, -34.	Donated conservation easement. Helps achieve purposes #4-7 (see p. 3).
<b>Totals:</b>		<b>58,217.0</b>		

\*Where conservation easement is indicated as a protection strategy, see Section 5.6 for recommended easement terms.

*Habitat Types:* The diversity of habitat types and species found within the Mountain Meadows Conceptual Area is of statewide significance. The high diversity of habitats is largely due to the biogeographic location of the site. The Conceptual Area straddles two bioregions, the Sierra Nevada and Cascade Mountains, and is ecotonal with two other bioregions, the Great Basin to the east and the Modoc Plateau to the northeast. As a result, *the Conceptual Area includes 15, or nearly one-third, of the 49 undeveloped habitat types described for California in A Guide to Wildlife Habitat Types of California* (CDF/CDFG, 1988). Most of the habitats included in the CAPP clearly qualify for Significant Natural Area status under Sections 2720-2721 of the Fish and Game Code, even though not currently designated as such. Wildlife Habitat Relationships (WHR) habitat types and estimated acreages are shown below in **bold**:

	<b><u>Acre (estimated)*</u></b>
<b>Tree Dominated Habitats (mature and second growth):</b>	<b>36,511</b>
Lodgepole Pine	
Sierran Mixed Conifer	
White Fir	
Jeffrey Pine	
Eastside Pine	
Red Fir	
<b>Riparian (mostly willows):</b>	<b>1,161</b>
Aspen	81
Montane Riparian (ca. 60 stream miles)	1,080
<b>Shrub Dominated Habitats:</b>	<b>5,200</b>
Sagebrush	1,400
Low Sage	800
Montane Chaparral (including many clearcuts)	3,000
<b>Herbaceous Dominated Habitats (wet meadows and reclaimable wetlands):</b>	<b>10,000</b>
Wet Meadow	8,000
Fresh Emergent Wetland	2,000
<b>Aquatic Habitats</b>	<b>5,100</b>
Lacustrine (Mtn. Meadows Reservoir and Duck Lake; open water at normal maximum elevation)	4,850
Riverine (perennial creeks)	250
<b>Urban (Westwood)</b>	<b>680</b>
<hr/>	
<b>Approximate Total Acres:</b>	<b>58,652</b>

\*To some extent, the acreage of wet meadows, wetlands, riparian, and lacustrine habitats is interchangeable, depending upon how water is stored within Mountain Meadows Reservoir.

Restorable wetlands and riparian channels in open meadows will be a focus for habitat improvement. At least 50 of the estimated 60 stream miles present in the Conceptual Area could be restored to improve fish and wildlife habitat. Perhaps the biggest beneficiary of such restoration efforts would be the state-endangered willow flycatcher.

#### **4.1 Local and/or Statewide Significance of Site**

***Threatened, Endangered, and Other Important Species:*** An exceptional diversity of threatened, endangered, and special concern species is found within the Conceptual Area. These species include: the state-endangered bald eagle, peregrine falcon, willow flycatcher, and great gray owl; the state-threatened Sierra Nevada red fox, Swainson's hawk, and greater sandhill crane; and the California spotted owl, pine marten, Sierra Nevada snowshoe hare, Barrow's goldeneye, northern goshawk, black tern, white-faced ibis, and yellow warbler (all species of special concern). **In total, 7 threatened and endangered species, 33 bird and mammal species of special concern, and 6 rare plant species have been recorded from the Conceptual Area (Appendix II).** The current status of selected species is summarized in Table 2 below.

In addition to special status species, many other important wildlife species occur within the Conceptual Area. These species include: a diversity of nesting and migratory waterfowl species, often numbering in the thousands; upland game birds, including blue grouse and mountain quail; several raptor species, including rough-legged hawk and golden eagle; 20 species of shorebirds and colonial waterbirds; 13 mesocarnivore species, including American badger and long-tailed weasel; and a variety of big game species, including black bear, mountain lion, blacktailed and Rocky Mountain mule deer, and pronghorn antelope. In addition, the nearly 60,000 acres of undeveloped meadows and uplands could support several hundred Rocky Mountain Elk in summer. This northeastern California native species is expanding its range naturally in Modoc and northern Lassen County.

**Table 2. Current status of selected wildlife species within Mountain Meadows Conceptual Area.**

Category (State of CA)	Species	Status
Endangered	bald eagle	up to 3 active nest sites during past 10 years
Endangered	great gray owl	1 record
Endangered	peregrine falcon	formerly nested on Keddie Ridge on edge of Conceptual Area; current breeding status uncertain
Endangered	willow flycatcher	6 to 12 nests during past 8 years
Threatened	greater sandhill crane	recorded as nesting (10 pairs present Spring, 2002); up to 400 individuals present in migration
Threatened	Sierra Nevada red fox	several records
Threatened	Swainson's hawk	uncommon in migration
Important	black bear	common
Important	pronghorn antelope	6 to 30 present in summer; may currently be limited by existing fences
Important	Great Basin Canada geese	80-120 breeding pairs
Important	blacktailed and Rocky Mtn. mule deer	important fawning area for Bass Hill subherd of Doyle Herd; zone X-6A
Important	mountain lion	uncommon
Important	wood duck	20-30 nesting pairs; probably the single most important nesting site in NE California due to presence of flooded timber and California Waterfowl Association nest boxes

***Regional Context:*** The Mountain Meadows Basin has been the focus of wildlife concerns and conservation interest for at least 40 years. In the late-1950's, the Department conducted extensive waterfowl nesting studies in the wetlands and meadows adjacent to the reservoir and found outstanding waterfowl production. Historic nesting waterfowl numbers and future potential numbers are high with restoration. Nesting species include Great Basin Canada geese and a variety of ducks. This is probably the single most important wood duck nesting site in northeastern California due to the presence of flooded timber. Migratory waterfowl are abundant in spring, summer, and fall.

In addition, some of the first California State Duck Stamp projects involving nesting islands and structures were constructed here in the mid-1970's. PG&E contributed sites and materials for nesting islands to

benefit nesting ducks and geese. The California Waterfowl Association (CWA) and Wildlife Conservation Board (WCB) funded additional waterfowl nesting improvements in the mid-1990's. These projects included adjustments in livestock grazing and structures for nesting waterfowl. The total cost of these investments was in excess of \$100,000. The long term viability of these projects would be greatly enhanced by the acquisitions proposed in this Plan.

#### **4.2 Site Viability, Habitat Condition, and Contribution to CDFG Planning Efforts**

Despite the degradation of riparian, meadow, and wetland habitats, largely due to persistent overgrazing, the Conceptual Area retains high biological viability. Contributing to this viability is the almost completely undeveloped (i.e., "unimproved") nature of the Conceptual Area. Indeed, few comparably-sized blocks of undeveloped private land still exist in California. The fact that the vast majority of native species likely to have historically occurred in the Conceptual Area are still present (grizzly bear and wolverine are notable exceptions) attests to the viability of the site.

The Mountain Meadows meadow complex is one of the largest remaining examples of montane meadow in the state. Due to the large size of the meadow complex, the relatively undisturbed condition of the upper watershed, and the lack of development in and around the meadows, the potential for large-scale habitat restoration is exceptional. Restoration of riparian and wet meadow habitats within the Conceptual Area has high potential to expand the existing population of endangered willow flycatchers. If these habitats were fully restored, we estimate that the meadow complex would support up to 30 additional breeding pairs.

Indeed, protection and restoration of willow flycatcher population sources, such as Mountain Meadows, is critical to the recovery of the species in California. The other 2 population centers for willow flycatchers in the northern Sierra, Perazzo Meadows and Warner Valley, have recently been placed in public ownership. The Department acquired the 689-acre Warner Valley Wildlife Area in 1991, primarily to protect the existing willow flycatcher population. The Trust for Public Land acquired much of the private land in Perazzo Meadows in 1995 (subsequently transferring it to the USFS). The Department already owns 3.23 acres of key willow flycatcher habitat along Robbers Creek within the Conceptual Area. The acquisitions proposed in this Plan will increase the conservation value of the Department's existing holdings within the Conceptual Area by protecting adjacent properties.

Natural vegetation cover dominates the Conceptual Area and provides connectivity with the Lassen National Forest to the north, east, and south. In addition to extensive meadow, riparian, and wetland habitats, the Conceptual Area contains large expanses of unbroken coniferous forest cover, providing movement corridors and breeding habitat for a variety of forest dependent species, including pine marten and northern goshawk.

#### **4.3 Site Diversity**

The Mountain Meadows Conceptual Area contains exceptionally high species diversity, habitat diversity, and landscape diversity. The location of the Conceptual Area at the interface of 4 bioregions introduces plants and animals into the Conceptual Area not common to other parts of the Sierra Nevada or Cascades, such as the state-threatened Swainson's hawk and greater sandhill crane, black tern, white-faced ibis, yellow-headed blackbird, white-tailed hare, Great Basin Canada geese, and the rare plant, marsh buttercup. In addition, the biogeographic position of the site leads to a diverse representation of habitat types, as the Conceptual Area contains 15 of the 49 undeveloped habitat types described for California in [A Guide to Wildlife Habitat Types of California](#) (CDF/CDFG, 1988).

### **5. MANAGEMENT OBJECTIVES**

#### **5.1/5.2 Conservation, Protection, Restoration, and/or Enhancement of Species, Habitats, or Communities**

The primary purposes of the proposed acquisitions include: 1) the protection and restoration of wet meadow, montane riparian, and fresh emergent wetland habitats and associated species; 2) specific habitat protection and improvements to aid in the removal of the willow flycatcher from the California endangered species list; 3) the creation of a landscape-scale protected area to offset impacts to fish, wildlife, and plant communities from water developments and year-round resort complexes in the northern Sierra Nevada; and 4) the protection of critical movement corridors and habitat connectivity for various wildlife species.

Restoration of wet meadow, montane riparian, and fresh emergent wetland habitat will directly benefit a suite of special status and other publicly-important wildlife and plant species, including 7 threatened and endangered species, 22 species of special concern, and 4 rare plant species. These species include the endangered willow flycatcher, endangered bald eagle, black tern, Sierra Nevada red fox, greater sandhill crane, and nesting and migratory waterfowl. Yearly monitoring will be conducted in order to quantify and verify the efficacy of restoration efforts.

Most of the stream channels in the Mountain Meadows Basin originally contained varying amounts of streamside willows and willow thickets, cottonwoods, and aspen groves. Shrub communities such as gooseberry, golden currant, and wild rose probably intermixed with the deciduous tree components. These plant communities are now absent from much of the Conceptual Area due to historic and persistent overgrazing. Restoration of these communities will dramatically increase species and structural diversity within the riparian zone. Specifically, degraded riparian habitats will be restored via grazing management, including exclusion of cattle from selected riparian areas, and planting of willow, cottonwood, and native riparian shrubs. Riparian restoration will be focused on areas of potential willow flycatcher habitat (based upon factors like stream gradient and meadow size and configuration). In addition to allowing for the recovery of existing riparian vegetation and the establishment of planted vegetation, exclusionary fencing will directly benefit willow flycatchers by preventing the physical destruction of nests by grazing cattle.

Exclusionary fencing and careful management of water levels in Mountain Meadows Reservoir will be used to protect and restore fresh emergent wetland and wet meadow habitat. Enhancing greater sandhill crane habitat as well as increasing upland duck nesting will require staggering successional stages in wet meadows through the use of strategic grazing, prescribed fire, and/or mowing.

The effective management of wildlife movement corridors and montane forest habitats will require increasing montane forest habitat diversity. Managing these forest ecosystems will involve an innovative combination of preserving mature forests and still providing some earlier plant successional species management. The use of selective forest practices and special timber harvest prescriptions as well as prescribed fire should be included. The addition of early seral species management will enhance structural and species diversity. Such forest management practices should be included as terms in applicable conservation easements (see Section 5.6).

#### **5.3/5.4 Public Use and Access**

Hunting and fishing will probably continue to be the most important recreational uses in the Mountain Meadows area. Hunting opportunities are especially good for waterfowl and Mountain Meadows Reservoir is currently one of the best publicly-accessible duck hunting sites in northeastern California. Both stream and lake fisheries are present and access to them will remain an important management function. Trout stream fisheries are found in Duffy, Goodrich, Mountain Meadows, and Robbers Creeks, with Goodrich Creek being planted in season by the Department. A warm water lake fishery is found at Mountain Meadows Reservoir, which supports trout, catfish, and largemouth bass. This lake is one of the best largemouth bass fisheries in northeastern California.

Current levels of fish and wildlife uses within the Conceptual Area are moderate to high. However, changes in ownership and land use have the potential to threaten current use levels and eliminate public access to key areas, such as Goodrich Creek along Highway 36. The estimated total annual visitor use days, as compiled by the Department, are as follows:

<u>USE</u>	<u>ESTIMATED ANNUAL VISITOR DAYS</u>	
Fishing	4,000	
Waterfowl hunting		750
Big game hunting		350
All other hunting		1,000
All other non- hunting and fishing uses	600	
<b>Total</b>		<b>6,700 Visitor Days</b>

Increases in hunting, fishing, and non-consumptive recreational uses should be anticipated due to increased development and associated population increases within the region. Future management should seek to accommodate the higher fishing use on both the reservoir and tributary streams.

Current use, especially by local consumptive users, is moderately high and these uses should be accommodated where possible in the future. Bald eagle nest disturbances have been minimal and are not thought to have limited nest success to date. Two bald eagle nest sites are located within the footprint of the proposed Dyer Mountain Resort and these nests should be monitored carefully. Off-highway vehicle and snowmobile use is expected to increase in the future and will need to be somewhat regulated where sensitive nest and Maidu sacred sites are located. Winter snowmobile access to higher elevation forest sites is minor now, but should be monitored in environmentally and culturally sensitive areas. Several historic (quasi-public) easements on existing roads, such as Moonlight road, should continue to allow general public use. Fishing and hunting are, and should continue to be, important public uses where they do not conflict with the protection of wildlife habitat and Maidu cultural sites. Seasonal and partial closures for wildlife protection, such as nesting waterfowl and willow flycatchers, should be considered. When conservation easements are used as a protection tool, the terms of the easements should include public access (see Section 5.6).

Recreational boating and personal water craft (not presently observed) use on Mountain Meadows Reservoir are likely to increase if the proposed Dyer Mountain Resort is developed. With this anticipated boating increase, some form of management plan must be considered to protect the quality of the environment and the safety of the public in and around the reservoir.

### **5.5 Cooperative Partnerships**

The following groups and organizations have indicated support for this plan. Additionally, many of them have indicated a willingness to play an active role in acquisition and management. Those groups shown below **in bold** have indicated a willingness to play a fundraising, legal, technical (e.g., conducting land transactions), and/or on-the-ground management role.

### Local Organizations

**Eagle Lake Chapter of the Audubon Society**  
**Feather River Coordinated Resource Management Group**  
**Feather River Land Trust**  
**Goodrich Creek Watershed Management Group**  
**Honey Lake Maidu**  
Lassen County Fish and Game Commission  
**Lassen Land and Trails Trust**  
Maidu Culture and Development Group  
**Mountain Meadows Conservancy**  
Northern California Regional Land Trust  
Organized Sportsmen of Lassen County  
**Plumas Chapter of the Audubon Society**  
Susanville Indian Rancheria  
**Trout Unlimited, Graeagle Chapter**  
**Westwood Planning Committee**

### Statewide and National Groups:

Audubon Society of California  
California Deer Association  
**California Waterfowl Association**  
CalTrout  
Ducks Unlimited  
Environmental Defense  
Mule Deer Foundation  
The Nature Conservancy  
**The Sierra Fund**  
**The Trust for Public Land**

If the Department is unable to own and manage land within the Conceptual Area, a joint partnership is the intended means of carrying out future management. The value of joint partnerships/management agreements is that many goals of habitat protection can be met on-site by dividing the entire operation over many specialized groups. It is suggested that much of the actual area operations be shared among these partners, perhaps through a steering committee guided by a comprehensive management plan.

The Mountain Meadows Conservancy, Feather River Land Trust, Environmental Defense, the California Waterfowl Association, and the Trust for Public Land are playing strong roles in support of this CAPP, and all have provided financial and/or staff resources toward its completion. These organizations are prepared to jointly raise the funds necessary to manage protected properties within the Conceptual Area (see Section 6 for detailed financial information). The Mountain Meadows Conservancy has established a website with local information and photos from the Conceptual Area that may be downloaded from [www.mtmeadows.org](http://www.mtmeadows.org).

### **Conservation Easement Terms**

Purchased and donated conservation easements are proposed as the primary protection tools for forest-dominated habitats (generally zoned TPZ) throughout the Conceptual Area. Important provisions to be included in such easements are: 1) public access for outdoor recreational activities (specifically, the easements protecting parcels along the proposed Bizz Johnson Trail extension should also include terms that allow for the creation and maintenance of the trail); 2) protection of riparian areas, primarily via fencing, grazing management, and the right to conduct stream restoration (some properties zoned TPZ contain substantial amounts of riparian habitat); and 3) no subdivision or development outside of existing building envelopes. Additional recommended easement terms include no gravel or hard rock mining (above *de minimus* levels) and timber management practices that are guided by best management

practices and a sustained yield timber harvest plan (>5 years in length). Desired forest conditions specified in this plan should include multi-aged, structurally-diverse stands with diverse tree species composition. Existing mature forests should be preserved and/or maintained. The use of selective forestry practices and special timber harvest prescriptions as well as prescribed fire should be included. Also providing for limited early seral species management will enhance structural and species diversity. In the case of PG&E lands and waters in and around Mountain Meadows Reservoir, fee title acquisition is the preferred protection strategy. However, if this is not feasible, the purchase of an easement that includes water rights, grazing rights, and public access should be pursued.

## 6. FINANCIAL INFORMATION

This CAPP includes 17 ownerships in need of additional protection of fish and wildlife habitat. Acquisition priorities, ownerships, acreages, Assessor's Parcel Numbers, and protection strategies are summarized in Table 1. Estimated acquisition costs by ownership and priority level are given below in Table 3. Costs for conservation easements on forest lands are reduced by 50%, as WCB payments for such easements are expected to be matched with Forest Legacy funds and/or other funding sources.

**Table 3. Estimated acquisition costs by ownership and acquisition priority, Mountain Meadows Conceptual Area.**

Priority Level	Owner	Address	Acreage	Estimated Costs	
				Per Acre	Subtotal
High	Pacific Gas and Electric	Mail Code N11C P.O. Box 770000 San Francisco, CA 94177	6,335.6	\$1,200 (fee title)	\$7,602,720
High	Mid Valley Title Co. (willow flycatcher parcel)	962 Mangrove Chico, CA 95926	148.6	\$1,200 (fee title)	\$178,320
High	John F. Hansler Trustees et al. (willow flycatcher parcel)	1201 Pacific Ave. #1685 Tacoma, WA 98402	133.5	\$2,000 (fee title)	\$267,000
High	Lois E. Shanklin (willow flycatcher parcels)	1057 Central Ave. Hayward, CA 94541	22.7	\$3,000 (fee title)	\$68,100
High	Hatch 1987 Revocable Trust (key meadow, wetland, and riparian parcels)	P.O. Box 990898 Redding, CA 96099	9,335.3	1,820.4 ac @ \$1,200 (fee title) = \$2,184,480; 7,514.9 ac of TPZ land @ \$300 (50% of \$600 for purchased easement <sup>2</sup> ) = \$2,254,470.	\$4,438,950
High	Sierra Pacific Industries (key meadow, wetland, and riparian parcels)	P.O. Box 496028 Redding, CA 96049	3,616.2	1,328.8 ac @ \$1,200 (fee title) = \$1,594,560; 2,287.4 ac of TPZ land @ \$300 (50% of \$600 for purchased easement) = \$686,220.	\$2,280,780
High	Roseburg Resources Co. (key meadow, wetland, and riparian parcels)	P.O. Box 680 Weed, CA 96094	3,027.9	all TPZ land: \$300 (50% of \$600 for purchased easement)	\$908,370
High	William S. Keeler Trust (key meadow and riparian	P.O. Box 308 Red Bluff, CA 96080	1,841.6	\$1,400 (fee title)	\$2,578,240



	parcels)				
High	Red River Forests Partnership (key meadow, wetland, and riparian parcels)	P.O. Box 990898 Redding, CA 96099	1,404.1	1,381.1 ac @ \$1,200 (fee title) = \$1,657,320; 23.0 ac of TPZ land @ \$300 (50% of \$600 for purchased easement) = \$6,900.	\$1,664,220
High	Elden A. Stroing (key meadow and riparian parcels)	20104 Pine Creek Road Red Bluff, CA 96080	160.9	\$2,000 (fee title)	\$321,800
High	H. W. and Adele Wasnechak (willow flycatcher parcel)	P.O. Box 1206 Westwood, CA 96137	11.8	\$3,000 (fee title)	\$35,400
High	Robert M. Lee (willow flycatcher parcel)	462740 Rainbow Drive Westwood, CA 96137	7.0	\$3,000 (fee title)	\$21,000
High	Harry W. Wasnechak (willow flycatcher parcel)	P.O. Box 1206 Westwood, CA 96137	15.1	\$3,000 (fee title)	\$45,300
<b>Subtotals for High Priority Parcels (13,207.1 ac of fee title land @ ave. of \$1,253.43/ac = \$16,554,240; 12,853.2 ac of purchased easement land @ ave. of \$300/ac = \$3,855,960)</b>			<b>26,060.3</b>		<b>\$20,410,200</b>
Medium	James L. and K. J. Stroing Revocable Trust (meadow and riparian parcels)	22137 Palermo Ave. Red Bluff, CA 96080	58.3	\$2,000 (fee title)	\$116,600
Medium	Stroing Family Revocable Trust (meadow and riparian parcels)	18990 Pine Creek Road Red Bluff, CA 96080	57.3	\$2,000 (fee title)	\$114,600
Medium	Myrna A. Mohler (meadow and riparian parcels)	19860 Red Bank Road Red Bluff, CA 96080	53.2	\$2,000 (fee title)	\$106,400
Medium	Mark R. and Susan L. Coffi (meadow parcel)	P.O. Box 1223 Westwood, CA 96137	13.3	\$3,000 (fee title)	\$39,900
Medium	Hatch 1987 Revocable Trust (forest parcels)	See above	13,340.4	\$250 [50% of \$500 (easement)]	\$3,335,100
Medium	Red River Forests Partnership (forest parcels)	See above	7,330.0	\$250 [50% of \$500 (easement)]	\$1,832,500
Medium	Sierra Pacific Industries (forest parcels)	See above	5,886.1	\$250 [50% of \$500 (easement)]	\$1,471,525
Medium	Roseburg Resources Co. (forest parcels)	See above	4,949.7	\$350 [50% of \$700 (easement)]	\$1,732,395
Medium	William S. Keeler Trust (forest and other parcels)	See above	468.4	Donated conservation easement	\$0.00
<b>Subtotals for Medium Priority Parcels (182.1 ac of fee title land @ ave. of \$2,073.04/ac = \$377,500; 31,974.6 ac of easement land @ ave. of \$261.82/ac = \$8,371,520)</b>			<b>32,156.7</b>		<b>\$8,749,020</b>
<b>Grand Totals for All Parcels (13,389.2 ac of fee title land @ ave. of \$1,264.58/ac = \$16,931,740; 44,827.8 ac of easement land @ ave. of 272.77/ac = \$12,227,480; OVERALL AVERAGE =</b>			<b>58,217.0</b>		<b>\$29,159,220</b>

<b>\$500.87/ac for 58,217.0 ac)</b>			
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<sup>1</sup>Within each priority level, ownerships are listed in order of acquisition priority.

<sup>2</sup>Costs for conservation easements on forest lands are reduced by 50%, as WCB payments for such easements are expected to be matched with Forest Legacy funds and/or other funding sources.

Purchased or donated conservation easements should be pursued on properties where fee title acquisition is the preferred strategy, but proves not to be feasible (see Section 5.6).

Mountain Meadows Reservoir and surrounding lands are owned and operated by PG&E. These lands and waters are the top priority for protection under this CAPP. Of note is that Mountain Meadows Reservoir is not currently regulated by the Federal Energy Regulatory Commission (FERC) (although PG&E has proposed to add Mountain Meadows Reservoir to their existing 2105 FERC license). Dramatic changes in electric power markets due to de-regulation and the Chapter 11 bankruptcy of PG&E have combined to put this property at risk.

A gravel mining operation on Round Mountain, which is leased by the owners, should be stopped or "sunsetted" with fee title acquisition of the parcel upon which it is located (owner = Red River Forests Partnership; APN = 123-130-14). This will have to be negotiated with the seller and with the lessee of the operation. The existing gravel operation threatens one of the primary Mountain Maidu sacred sites in the region, as well as the biological integrity of the surrounding meadows and wetlands.

Public use, site security, and public health and safety operations and maintenance functions include gates, fences, and signs. Patrolling and law enforcement functions would be consistent with current CDFG Wildlife Protection duties. Resource management costs would be dependent upon the direction and annual levels of development decided upon by the partners' management team. The estimated costs for signs would decline over years after acquisition. The estimated annual costs for all of these operations and maintenance functions would be \$50,000 and the minimum on-site staff (executive director, wildlife biologist, administrative assistant) costs would be \$125,000. These cost estimates assume the protection of all properties listed in the CAPP, so actual costs are likely to be much lower until many properties are protected. The various partnership organizations, primarily the Mountain Meadows Conservancy, the Feather River Land Trust, Environmental Defense, the California Waterfowl Association, the Trust for Public Land, and the Sierra Fund, are prepared to jointly raise the above funds.

If applicable, in-lieu of tax costs have been roughly estimated from information provided by Lassen County. Two types of lands are considered in this estimate:

1. Meadow, riparian, wetlands, and non-forested uplands mostly zoned UC2 (est.\$3.00/acre/year) X 7,053 acres =	\$21,159
2. PG&E lands and waters (\$75,119 for 6,335 acres) =	\$75,119
<b>Total estimated annual in-lieu of tax payments to Lassen County =</b>	<b>\$96,278</b>

If a conservation easement were implemented on PG&E lands in lieu of fee title acquisition, the total annual in-lieu of tax costs would drop to approximately **\$25,000**.

Start up costs may be anticipated for the following items; it is the hope of the partnership that the Department can provide this start up funding:

1. Survey for possible hazardous materials along Robbers Creek in the Westwood area. This site was occupied by the former Red River Lumber Mill and the old Westwood dump site (est. \$50,000).
2. An inventory of known cultural resource sites already identified with recommendations for future protection measures (est. \$25,000).
3. Emergency fencing needs and contentious boundary issues (est. \$20,000)
4. Monument signs and boundary signing (est. \$15,000)

**Total estimated start-up costs = \$110,000**

Most of the parcels are fenced and cross-fenced. Many of these fences are “let-down” fences where wires are raised and lowered each spring and fall. This is due to occasional heavy snowfall which can damage fixed-wire fences. The seasonal raising and lowering of fences is currently accomplished by one person in a few days each year and will be part of on-going management by partnership members.

## **7. CULTURAL RESOURCES**

Inventories of historic and cultural sites have been done on many of the parcels in the Conceptual Area (“The Aboriginal Ecology of Mountain Meadows”, J. McMillan, 1987). One known Mountain Maidu sacred site is Round Mountain, which is currently being dismantled by gravel mining (see Section 6). An abundance of other Maidu Indian cultural sites are present throughout the Conceptual Area, including burial, village, and sacred sites (McMillan 1987). Several Maidu cultural groups consider the Mountain Meadows Basin to be extremely significant to their history, culture, and spirituality. Indeed, Keddie Ridge and Mountain Meadows are central to Mountain Maidu creation stories. Members of the Honey Lake Maidu Tribe, Maidu Culture and Development Group, Roundhouse Council, Susanville Indian Rancheria, and all other Maidu groups strongly support additional protection because they feel that public or non-profit ownership will provide long-term stability and protection of the area’s cultural and natural resources.

## **8. HAZARDOUS MATERIALS**

No hazardous materials are known to be present within the Conceptual Area. However, it is possible that some industrial wastes are present along Robbers Creek at the site of the former Red River Lumber Mill and Westwood dump. Hazardous materials surveys are planned for this site (see Section 6).

## **9. LOCAL AND REGIONAL ISSUES**

Broad scale support for habitat protection at this site is exceptional. A recent poll shows that 75% of the local population supports habitat protection and management at Mountain Meadows Reservoir and Mountain Meadows. In addition, at least 24 local, state, and national conservation and cultural organizations have expressed support and interest (see Section 5.5). Several of these organizations have indicated that they are prepared to enter into joint management agreements to help in future management and public use. In addition, if the proposed Dyer Mountain Resort proceeds, the developers of this project have indicated they would be in support of this CAPP.

The 6,335 acres of PG&E lands and waters at Mountain Meadows Reservoir are the centerpiece of the Conceptual Area. Due to PG&E’s Chapter 11 Bankruptcy (March, 2001), the status of these lands is unknown, although before the bankruptcy PG&E was committed to protecting lands such as these in conjunction with local, state, and federal agencies, and land conservation organizations.

## 10. THREATS

A wide range of imminent and future actions threaten the Conceptual Area and its outstanding biological and cultural resources. Primary among these is the proposed Dyer Mountain Resort, which would directly eliminate thousands of acres of forest, meadow, and riparian habitat, and drastically increase human impacts upon the area's biological and cultural resources. Some of the ways in which the development could reduce fish and wildlife habitat are by increased freshwater uses in the immediate watershed for domestic use, business use, golf course watering, and snow making. Even if the project extracts ground waters and not surface waters, changes in surface spring yields are likely. Public uses on lands not owned by the development could influence nesting bird use, especially for species such as bald eagles and sandhill cranes, which are susceptible to human disturbances. Increased boating, especially the use of personal watercraft on the reservoir, could significantly impact nesting waterbirds.

Additional threats include increased logging of mature forests, excessive livestock grazing that has already degraded riparian, meadow, and aquatic habitats, and the continuation or expansion of the gravel mining lease in the middle of Mountain Meadows at Round Mountain (a sacred Maidu site). Also, with the increased unpredictability of water levels within Mountain Meadows Reservoir due to PG&E's bankruptcy and the demand for power, fishery and wetland habitats are threatened. Any one or a combination of these projects will substantially diminish the outstanding fish and wildlife habitats of the Conceptual Area. Excessive grazing can directly destroy habitat for ducklings, goslings, and young sandhill cranes, as well as nests. Stream channels and willow riparian areas have been and continue to be severely damaged through overgrazing; however, the potential remains high for future enhancement of these areas through grazing management and re-planting of willow, cottonwood, aspen, and other riparian shrubs.

Recent timber harvest practices on forest lands have changed on some lands (especially SPI and Roseburg) from selective cutting to clear cutting and other high yield prescriptions. Structural, species, and age diversity of stands has been substantially modified in historic times. Stands are managed for maximum yield and maximum growth for remaining trees (post harvest) and such management reduces wildlife species richness within stands. Even management prescriptions that purport to benefit "old growth" species such as spotted owls and northern goshawks have reduced shrub and understory components that are primary producers of prey for these and many other species. Finally, lack of prescribed or wildfire has severely changed species composition, snag densities, and understory shrub components. This has in turn modified wildlife species presence and reproductive success.

We are confident that the implementation of this CAPP will address the above threats and provide for the ecological sustainability and restoration of the Mountain Meadows Basin.

11. **CONTACT PERSONS IN REGION**

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## **APPENDICES**

### I. Maps.

- a. Vicinity Map
- b. USGS Quad Maps
- c. County Assessor Parcel Maps
- d. Land Ownership Map
- e. Priority Parcel Map

### II. List and Status of Special Status Wildlife and Plant Species.

### III. Summary of Private Land Ownership within Mountain Meadows Conceptual Area.

### IV. Mountain Meadows CAPP Parcels and Legal Descriptions.

### V. Photographs.

## **ATTACHMENT E: MAPS**

**Map of approved California Department of Fish and Game  
CAPP region**

**Full watershed map of California Native Plant Society  
boundaries of Mountain Meadows Watershed**

**Map and Recommendations of Watershed Stewardship  
Council PG&E properties with recommended draft  
restoration options**

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

<b>Planning Unit Objective: Preserve and enhance biological and cultural resources, enhance recreation opportunities and sustainable forestry management, and evaluate the potential for grazing opportunities.</b>		
<b>Beneficial Public Value</b>	<b>Objective</b>	<b>Potential Measures to Preserve and/or Enhance BPVs – Not Requirements*</b>
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 the planning unit to identify biological resources and enable their protection.</li> <li>Develop a noxious weed management plan for the planning unit.</li> <li>Maintain and protect meadow habitats and sensitive species by monitoring, adding protective measures, and providing restorative enhancements.</li> <li>Develop a wildlife and habitat management plan for the planning unit.</li> <li>Protect meadow and fish habitats by assessing water quality and by working with adjacent landowners for the overall betterment of habitats in Mountain Meadows Reservoir.</li> <li>Restore and improve fencing to protect certain wetlands from adjacent grazing operations.**</li> <li>Prevent OHV and other vehicle access to informal use sites and other sensitive areas; facilitate organized clean-ups and restore sites, where needed.</li> </ul>
Preservation of Open Space	<b>Preserve open space in order to protect natural and cultural resources and the undeveloped recreation setting.</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 recreation facilities in order to provide additional public access, educational and recreation opportunities, and additional recreation management.</b>	<ul style="list-style-type: none"> <li>Develop a recreation management plan to formalize increasing uses and protect valuable recreation, habitat, and cultural resources.</li> <li>Develop an interpretation and education program with signage at public access points in coordination with local Native American entities, adjacent landowners, and interested stakeholders as part of the recreation management plan.</li> <li>Evaluate the potential to add additional public access and a day use area on the north shore of Mountain Meadows Reservoir in coordination with adjacent landowners.**</li> <li>Evaluate the potential to add wildlife viewing facilities (e.g., a platform or boardwalk) linked to a new day use area near Westwood and a potential east shore site and facilitate education programs.**</li> <li>Evaluate the potential to enhance the existing boat launch by replacing the boat ramp and adding a boarding dock, ADA fishing platform, and day use facilities.**</li> <li>Include public access at historically used informal access points and potential new access points in coordination with adjacent landowners, when adding/restoring fencing to protect wetlands at Mountain Meadows Reservoir.**</li> </ul>
Sustainable Forestry	<b>Develop and implement forestry practices in order to contribute to a sustainable forest and preserve and enhance habitat.</b>	<ul style="list-style-type: none"> <li>Evaluate timber inventory data and supplement as appropriate.</li> <li>Develop a forest management plan for the planning unit to promote wildlife habitat and structural and physical diversity in the surrounding forests of Mountain Meadows Reservoir and along Hamilton Branch for long-term ecological, social, economic, and cultural benefits.</li> </ul>
Agricultural Uses	<b>Assess the potential use of cattle grazing in order to maintain meadow habitat.</b>	<ul style="list-style-type: none"> <li>Develop a baseline conditions report that describes current agricultural, physical, and overall biological conditions of the area, including current uses and state of improvement.</li> <li>Evaluate the potential to reinstate appropriate levels of grazing intensity as a tool for meadow management within the planning unit.</li> <li>Improve fencing to better manage livestock movement and distribution near the reservoir.</li> </ul>
Preservation of Historic Values	<b>Identify and manage cultural resources in order to ensure their protection.</b>	<ul style="list-style-type: none"> <li>Supplement existing cultural resource survey.</li> <li>Conduct an ethnographic study to identify traditional use areas and assess the potential to restore these areas and uses.</li> <li>Allow access for ethnobotanical uses, gatherings, and ceremonies.</li> <li>Develop a cultural resources management plan.</li> <li>Protect cultural sites by formalizing recreation where necessary.</li> <li>Coordinate with Native American entities when conducting cultural resource measures.</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.









Westwood



