
Appendix C
Standard Management Requirements
and Monitoring Strategy

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Wildlife and Fisheries

The Standard Management Requirements (SMRs) are contained in the *Biological Assessment / Biological Evaluation for the Diamond Vegetation Management Project*. This report is part of the Diamond Project Record on file at the Mt. Hough Ranger District; a copy is available upon request.

California Spotted Owl. The implementation of the action alternatives around known spotted owl nest sites during the nesting season may cause disturbance that could disrupt nesting behaviors and potentially lead to nest failure. To prevent disturbance to nest sites, the following Area Thinning Subunits, Defensible Fuel Profile Zones (DFPZ) Units, and roads should not have any land disturbance activities occurring from March 1 through August 31 due to the location of known nest sites in relation to a proposed harvest unit: Subunit 109.2; Subunit 131.3; DFPZ Unit 30, Forest Service Road (FS) 27N53, and FS 29N43 (north of the junction with FS 29N99).

Northern Goshawk. The implementation of the action alternatives around known nest sites during the nesting season could disrupt nesting behavior and potentially lead to nest failure. To prevent disturbance to nest sites, the following Area Thinning Units, DFPZ Units, and roads should not have any land-disturbing activities occurring from March 1 through September 15 due to the location of known nest sites in relation to a proposed harvest unit: Subunit 108.5; Subunit 108.6, DFPZ Unit 11, DFPZ Unit 14, FS 27N70, FS 28N99, and the two nonsystem roads proposed for use in PAC AD02T30.

Hydrology and Soils

The Standard Management Requirements (SMRs) are displayed in the Cumulative Watershed Effects and Soils Assessment for the Diamond Vegetation Management Project.” This report is part of the Diamond Project Record on file at the Mount Hough Ranger District; a copy is available upon request.

Water quality will be protected through the use of Best Management Practices (BMPs) (USDA Forest Service 2000). BMPs are the primary method employed by the Forest Service and the State of California to prevent water quality degradation and to meet California State Water Quality objectives relating to nonpoint sources of pollution. BMPs were incorporated in the design of the action alternatives and are listed under the regulatory framework (see table C-1).

Table C-1. Diamond Project design features and mitigation measures.

Resource Concern	Standard Management Requirements	Responsible Person(s)	Timeframe				
Implement Best Management Practices (BMPs):							
Timber Management Practices							
Soils/Fish/ Hydrology / Wildlife	1.1	Planning Process	Prep Officer and Timber Sale Administrator (TSA)	Prior and During Treatment			
	1.2	Timber Harvest Area Design					
	1.3	Use of Erosion Hazard Rating (EHR) for Timber Harvest Area					
	1.4	Use of Sale Area Maps for Designating Water Quality Protection Needs					
	1.5	Limiting the Operating Period of Timber Sale Activities					
	1.6	Protection of Unstable Lands					
	1.8	Streamside Management Zone Designation					
	1.10	Tractor Skidding Design					
	1.12	Log Landing Location					
	1.13	Erosion Prevention and Control Measures During Timber Sale Operations					
	1.14	Special Erosion Prevention Measures On disturbed Land					
	1.15	Re-vegetation of Areas Disturbed by Harvest					
	1.16	Log Landing Erosion Prevention and Control					
	1.17	Erosion Control on Skid Trails					
	1.18	Meadow Protection During Timber Harvesting					
	1.19	Streamcourse Protection					
	1.20	Erosion Control Structure Maintenance					
	1.21	Acceptance of Timber Sale Erosion Control Measures Before Sale Closure					
	1.22	Slash Treatment in Sensitive Areas					
	1.23	Five-Year Reforestation Requirement					
	1.25	Modification of the Timber Sale Contract					
	Road and Building Site Construction Practices						
		2.1			General Guidelines for the Location And Design Of Roads		
		2.2			Erosion Control Plan		
		2.3			Timing of Construction Activities		
	2.4	Stabilization of Road Slope Surfaces and Spoil Disposal Areas					
	2.5	Road Slope Stabilization					
	2.6	Dispersion of Subsurface Drainage from Cut and Fill Slopes					
	2.7	Control of Road Drainage					
	2.9	Timely Erosion Control Measures on Incomplete Roads and Streamcourses					
	2.11	Control of Sidecast Material					
	2.12	Servicing and Refueling of Equipment (similar to BMP 7.4 – Oil and Hazardous Substance Spill Contingency Plan and Spill Prevention Control and Countermeasure [SPCC] Plan)					
	2.13	Control of Construction in Streamside Management Zones (the Riparian Habitat Conservation Areas [RHCA's])					
	2.14	Controlling In-channel Excavation					
	2.15	Diversion of Flows Around Construction Sites					
	2.16	Streamcourses on Temporary Roads					
	2.22	Maintenance of Roads					
	2.23	Road Surface Treatment to Prevent Loss of Materials					
	2.24	Traffic Control During Wet Periods					
	2.26	Obliteration or Decommissioning of Roads					

Table C-1. Diamond Project design features and mitigation measures (continued).

Resource Concern	Standard Management Requirements	Responsible Person(s)	Timeframe
Implement Best Management Practices (BMPs):			
Vegetation Manipulation Practices			
	5.2 Slope Limitations for Mechanical Equipment Operations		
	5.3 Tractor Operation Limitation in Wetlands and Meadows		
	5.6 Soil Moisture for Mechanical Equipment Operations		
	5.7 Pesticide Use Planning Process		
	5.8 Pesticide Application According to Label Directions and Applicable Legal Requirements		
	5.9 Pesticide Application Monitoring and Evaluation		
	5.10 Pesticide Spill Contingency Planning		
	5.11 Cleaning and Disposal of Pesticide Containers and Equipment		
	5.12 Streamside Wet Area Protection During Pesticide Spraying		
	5.13 Controlling Pesticide Drift During Spray Application		
Fire Suppression and Fuels Management Practices			
	6.1 Fire and Fuel Management Activities		
	6.2 Consideration of Water Quality in Formulating Fire Prescriptions		
Watershed Management Practices			
	7.3 Protection of Wetlands		
	7.4 Oil and Hazardous Substance Spill Contingency Plan and Spill Prevention Control and Countermeasure (SPCC) Plan		
	7.8 Cumulative Off-site Watershed Effects		

Site-specific measures that relate directly to these BMPs would be used on the Diamond Project to minimize erosion and resultant sedimentation. The BMPs would also be used to minimize negative changes in other water quality parameters such as dissolved oxygen, water temperature, and turbidity. These mitigation measures follow the Scientific Analysis Team guidelines for areas adjacent to stream courses, lakes and wetland areas, and streamside guidelines presented in the *Plumas National Forest Land and Resource Management Plan*. Protection and improvement measures would include minimizing disturbance of riparian zones, retention of snags for wildlife, stream shading, recruitment of large organic debris in stream channels, maintenance of side slope and stream channel stability, and prevention of an over accumulation of activity-generated organic debris in stream channels. Timber sale contracts contain many standard provisions that help ensure protection of soil and water resources. These include provisions for an erosion control plan, road maintenance, and skid trail spacing. The following measures, which were incorporated in the design of the action alternatives, would further reduce the risk of cumulative and local impacts on water quality and channel stability.

1. Soil protection measures are described below
 - Incorporate the following practices into the project design:
 - a. Restrict all ground-based operations to less than 35 percent slopes outside of Riparian Habitat Conservation Areas (RHCAs), and less than 25 percent slopes within designated treatment areas of RHCAs. RHCAs with sensitive areas (e.g., highly erodible soils, etc.) will not be entered with ground-based equipment.

- b. Within RHCAs, areas of bare ground greater than 400 square feet resulting from operations should be mulched. If slash or wood chips are not available, certified weed-free straw will be used. Consult with the district soil scientist and botanist prior to mulching.
- c. Within RHCAs, modify skid trail spacing and implement mechanical operations in a manner that will reduce ground disturbance. Consult with the District soil scientist during unit layout and contract administration to minimize ground disturbance and erosion risk from mechanical operations.
- d. Unless otherwise agreed to by the physical scientist and sale administrator, landings, skid trail approaches to landings (to a distance of 200 feet), and new temporary roads would be subsoiled through the full depth of compaction to restore soil porosity. The subsoiler would be lifted where substantial root and bole damage to larger trees would occur from subsoiling. Skids with slopes greater than 20 percent will not be subsoiled but would be frequently waterbarred. Subsoiling would not occur on shallow soils where the displacement of rocks disrupts soil horizons or where there are concerns about the spread of root disease, or damage to tree roots. Block vehicle access to temporary roads and install water-bars prior to subsoiling operations.
- e. Implement the following winter or unseasonably wet weather standards in all units:
 - Operations may occur when soil is dry; that is, soil moisture in the upper 8 inches is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped.
 - Winter operations may occur only when the ground is frozen to a depth of 5 inches or over 8 inches of packed snow

Riparian Habitat Conservation Areas (RHCA)

1. Management activities in RHCAs must contribute to improving or maintaining watershed and aquatic habitat conditions described in the Riparian Management Objectives (RMOs).
2. Apply RHCA widths for perennial, intermittent, and ephemeral streams. RHCA widths shall be consistent with RMO and Scientific Analysis Team (SAT) guidelines set forth in appendix L of the HFQLG Forest Recover Act final EIS. Treatments to achieve fuel or vegetation objectives within RHCAs are necessary to help satisfy RMOs.

The stream protection zone interim widths developed by SAT are as follows: 300 feet for perennial fish-bearing streams and lakes; 150 feet for nonfish-bearing streams, ponds, wetlands greater than 1 acre, and lakes; and 100 feet for intermittent and ephemeral streams, wetlands less than 1 acre, and landslides.
3. Herbicide Best Management Practices (BMPs) and other management requirements would be applied to minimize the risk of herbicides inadvertently entering waters or unintentionally altering the riparian area. Streamside buffer zones would be established adjacent to surface water, riparian areas, stream channels, or wetlands.
4. Follow the RHCA Design Criteria developed for the Diamond Project.
5. Implement equipment restriction zones and burn pile restriction zones in RHCAs, according to the following table:

Table C-2. Equipment restriction zones and burn pile restriction zones in RHCAs.

Stream Type	Equipment Restrictions by Slope Class			Burn Pile Restrictions by Slope Class ^a	
	0–15%	15–25%	>25%	0–15%	>15%
Perennial, fish bearing	100 feet ^a	150 feet	No mechanical treatment	25 feet	40 feet
Perennial, no fish	50 feet	100 feet	No mechanical treatment	25 feet	40 feet
Intermittent	50 feet	100 feet	No mechanical treatment	15 feet	25 feet
Ephemeral	25 feet	50 feet	No mechanical treatment	15 feet	15 feet

Note:

a. Distances shown would apply to each side of the stream channel and are based on stream type and slope steepness. Where feasible, burn piles would not be placed any closer to streams than the distances shown.

Botanical Resources and Noxious Weeds

Botanical Resources

Table C-3 identifies those sensitive plant species that would be protected under all action alternatives through the designation of Control Areas. No ground-disturbing activities will occur in Control Areas, with the exception of limited prescribed fire activities. Sensitive plant occurrences will also be surrounded by a 50-foot buffer in which herbicides will be excluded.

Table C-3. Sensitive plant species within designated Control Areas.

Species	Control Area Location
<i>Astragalus pulsiferae</i> var. <i>pulsiferae</i> (Pulsifer’s milk-vetch)	Area Thinning Unit 111
<i>Cupressus bakeri</i> (Baker cypress)	Area Thinning Unit 111
<i>Lomatium roseanum</i> (adobe parsley)	Area Thinning Unit 102
<i>Penstemon sudans</i> (Susanville penstemon)	Area Thinning Unit 131

Noxious Weeds

The following SMRs were developed in accordance with the direction provided in table 2.4 of the Herger-Feinstein Quincy Library Group (HFQLG) Final Environmental Impact Statement (EIS) to reduce the introduction and spread of noxious weeds on National Forest System lands. These SMRs are also displayed in the *Noxious Weed Risk Assessment for the Diamond Vegetation Management Project*. This report is part of the Diamond Project Record on file at the Mt. Hough Ranger District—a copy is available upon request.

Cleaning Off-road Equipment. Require all off-road equipment and vehicles (Forest Service and contracted) used for project implementation to be free of weeds. Clean all equipment and vehicles of all mud, dirt, and plant parts. This will be done at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter the project area. Cleaning is not required for vehicles that will stay on the roadway. In addition, all off-road equipment must be cleaned prior to leaving areas infested with noxious weeds.

Road Construction, Reconstruction, and Maintenance. All earth-moving equipment, gravel, fill, or other materials need to be weed free. Use onsite sand, gravel, rock, or organic matter where possible.

Revegetation. Use weed-free equipment, mulches, and seed sources. Avoid seeding in areas where revegetation will occur naturally, unless noxious weeds are a concern. Save topsoil from disturbance and put it back to use in onsite revegetation, unless contaminated with noxious weeds. All activities that require seeding or planting will need to use only locally collected native seed sources. Plant and seed material should be collected from as close to the project area as possible, from within the same watershed, and at a similar elevation whenever possible. Persistent non-native species such as timothy, orchard grass, or ryegrass should be avoided. This will implement the USDA Forest Service Pacific Southwest Region (Region 5) policy that directs the use of native plant material for revegetation and restoration for maintaining “the overall national goal of conserving the biodiversity, health, productivity, and sustainable use of forest, rangeland, and aquatic ecosystems. Plumas National Forest botanists will develop project, and site-specific revegetation and seeding guidelines will be customized from existing general guidelines as necessary.

Staging Areas. Do not stage equipment, materials, or crews in noxious weed-infested areas where there is a risk of spread to areas of low infestation.

Control Areas. Wherever feasible, noxious weed locations will be area designated as Control Areas, where equipment and project activities will be excluded. These areas will be identified on project maps and delineated in the field with day-glow orange noxious weed flagging.

Heritage Resources

These SMRs are displayed in the “Heritage Resource Report for the Diamond Vegetation Management Project.” This report is part of the Diamond Project Record on file at the Mt. Hough Ranger District—a copy is available upon request.

- A. All proposed activities, facilities, improvements, and disturbances shall avoid heritage resource sites. “Avoidance” means that no activities associated with the project that may affect heritage resource sites shall occur within a site’s boundaries, including any defined buffer zones. Portions of the project may need to be modified, redesigned, or eliminated to properly avoid heritage resource sites.
- B. All heritage resource sites within the area of potential effect shall be clearly delineated prior to implementing any associated activities that have the potential to affect heritage resource sites.
- C. Buffer zones may be established to ensure added protection where the forest or district archaeologist determines that they are necessary. The use of buffer zones in conjunction with other avoidance measures are particularly applicable where setting contributes to the property's eligibility under 36 CFR 60.4, or where it may be an important attribute of some types of heritage resource sites (e.g., historic buildings or structures; historic or heritage properties important to Native Americans). The size of buffer zones needs to be determined by the forest or district archaeologist on a case-by-case basis.
- D. When any changes in proposed activities are necessary to avoid heritage resource sites (e.g., project modifications), these changes shall be completed prior to initiating any activities.

- E. Monitoring during project implementation, in conjunction with other measures, may be used to enhance the effectiveness of protection measures.
- F. If heritage resources are inadvertently discovered during project implementation, the Mount Hough Ranger District archaeologist will be contacted immediately. The heritage resources will be recorded, clearly delineated, and protected.

Treatment Implementation

Pre-existing skid trails and landings will be used in Fuel Treatment, Area Thinning, and Group Selection Units, whenever available, feasible, and in a desirable location. In order to avoid loss of land base productivity, no more than 15 percent of timber stands shall be dedicated to landings and permanent skid trails (*Plumas National Forest Land and Resource Management Plan* ["Forest Plan"]). In areas where pre-existing skid trails and landings are not present, construction of such facilities will occur as agreed upon by the Forest Service and purchaser. All landings and skid trails utilized shall conform to the standards and guidelines set forth in the Timber Sale Administration Handbook (FSH 2409.15) and the Forest Plan.

Whole-tree yarding is proposed for fuel treatment, group selection, and area thinning treatments. Under a whole-tree yarding harvest system, individual trees are directionally felled using a mechanical cutting head attached to a tractor or similar unit. Smaller trees (less than 10 inches diameter at breast height [dbh]) are cut, gathered in bunches, and left as "doodles" in the harvest unit; these smaller trees are not typically bucked or limbed within the unit. A rubber-tired, track-laying machine, or similar machine, is then used to yard these doodles to the landing. At the landing, trees are limbed and bucked to specified lengths. Bucked log sections are loaded onto a log truck and transported to the mill; limbs are typically either chipped and hauled away to a cogeneration (power) plant or burned at the landing.

Occasionally, larger diameter trees (greater than 20 inches dbh) cannot be skidded in whole-tree sections because these sections may exceed 100 feet. Typically, these sections are bucked to lengths of 40 feet and skidded to the landing individually. At the landing, they are limbed and further bucked to specification as needed and hauled to the mill. In some cases, the amount of limbwood on a tree may not allow skidding of the tree without damage to the residual stand. This usually occurs on butt logs that are greater than 20 inches in diameter. In this case, limbwood will be removed within the unit to facilitate skidding to the landing. Additional limbwood may break off along skid trails during skidding.

Treatment of this residual slash (after whole-tree yarding) created during harvests will be handled differently depending on treatment type. Within the Group Selection Units, slash will either be grapple piled and burned or underburned to prepare the site for planting. In Area Thinning Units, slash treatment will include piling and burning, whole-tree yarding, slash chipping, and lopping/scattering limbs and treetops. Fuel treatment in Area Thinning Units will be evaluated after treatment, and areas that do not meet desired conditions with respect to surface fuels will be treated with underburning, pile burning, or other appropriate method.

Mastication will be implemented using a mastication head attached to an excavator, small tractor, or other type of machine (Coulter et al. 2002). The mastication head is used to chip or shred ladder fuels from brush and small trees (up to ~9 inches dbh) in place. Shredded material will be incorporated into the duff layer during operations, left on site, or reduced using a follow prescribed burn following post treatment evaluation.

Mastication is typically implemented in areas of high brush cover or that need ladder fuel treatment where biomass removal is not feasible.

Borax will be applied to all harvest conifer stumps 14 inches in diameter and greater within the day of harvest in order to minimize the spread of *annosum* root disease. All Borax applications will follow safety and resource protection measures. The Borax applications will comply with all applicable state and federal regulations for the safe use of pesticides, including the Sporax® label requirements; for example, applicators will be adequately trained, medical aid will be available, wash water and eye wash water will be on site or nearby, and personal protective equipment (eye protection, gloves, long-sleeved shirt, and long pants) will be used. All BMPs listed above (refer to table C-1) for pesticide application, including a Spill Contingency Plan, would be implemented. Borax applications would not occur within 25 feet of stream courses and would not be applied during sustained rainfall.

Monitoring Strategy for the Diamond Project

Two stages of monitoring are discussed in this appendix: implementation and effectiveness. Implementation monitoring determines the degree and extent to which application of standards and guidelines and mitigation measures meets management direction and intent. Effectiveness monitoring is used to determine the degree to which implemented resource management activities met objectives. The effectiveness of standards, guidelines, or mitigations cannot be assessed without first confirming that those standards and guidelines were actually implemented. Information from monitoring will help guide future activities and/or adjust current management practices.

The following are the overall goals of monitoring activities:

1. Provide information useful to managers applying the principles of adaptive management.
2. Assist the public in gauging the success of implementing the resource management activities as designed.
3. Assess the effectiveness of the resource management activities in achieving resource objectives.

The following monitoring activities address the purpose and need of the Diamond Project. In order to do so, post-implementation assessment will be project specific. In addition, programmatic HFQLG monitoring will occur concurrently (HFQLG final EIS 1999), testing the effectiveness of the entire HFQLG Act Pilot Project, of which the Diamond Project is only one project. Since the main HFQLG monitoring sites are determined randomly, it is not known yet how many of these sites will be included in the Diamond Project Area. The following efforts will take place during project implementation and after completion of project activities.

DFPZ Maintenance Monitoring

The HFQLG Act final supplemental EIS Record of Decision (pages 13–14) outlines the monitoring strategy for the HFQLG Pilot Projects. This monitoring strategy will apply to DFPZ maintenance projects. Although the DFPZs were designed to remain effective for at least 10 years, monitoring will begin 4 years after construction is completed. The monitoring will be completed at least every two years thereafter. Results of this monitoring will be available to the public. Implementation monitoring, Pilot Project-wide HFQLG monitoring, and the results from the Plumas-Lassen Administrative Study will provide information useful to managers and address

the needs for guiding adaptive management action. Based on monitoring data, maintenance activities will occur as described in appendix B (“Maintenance of DFPZ Fuel Projects within the Diamond Project Area”) and in the 2003 HFQLG final supplemental EIS.

Vegetation Treatment Monitoring

Post-treatment vegetation monitoring will occur to examine the effectiveness of vegetation treatments and evaluate how well treatments are meeting the stated silvicultural objectives and desired conditions. Measurement indicators used in the analysis will be monitored within Treatment Units in the Project Area. Measurement indicators (such as trees per acre, basal area, relative stand density, canopy cover, and species composition) will be monitored to determine how well vegetation treatments are meeting desired conditions and to assess the effectiveness of treatments in achieving silvicultural objectives. Implementation monitoring, Pilot Project-wide HFQLG monitoring, and the results from the Plumas-Lassen Administrative Study will provide information useful to managers and address the needs for guiding adaptive management action.

Monitoring for Cumulative Watershed Effects

Implementation and effectiveness monitoring for cumulative watershed effects are will be accomplished through the Best Management Practice Effectiveness Evaluation Process and BMP implementation monitoring. In addition, the mitigation measures, if implemented, will be monitored for effectiveness.

Sampling Design

Sites to be evaluated will be identified by random or non-random sampling selection procedures. The random selection process for monitored sites involves looking at projects in the Mt. Hough Ranger District. Within the selected project, randomly selected units that meet certain issues deemed appropriate by the hydrologist are then designated for monitoring. If the unit does not require monitoring, another is chosen within the Project Area. Randomly identified sites are very important for drawing statistical conclusions on the implementation and effectiveness of BMPs. Those sites not randomly selected will allow for direct monitoring of management practice effectiveness within an area that may have an elevated Threshold of Concern. Those sites not randomly selected will be clearly identified and kept separate from the randomly selected sites by the Forest Hydrologist during data storage and analysis.

Heritage Resources

Monitoring during project implementation will be completed by District personnel.

Noxious Weeds

Monitoring during and after project implementation will be used to assess the effectiveness of the SMRs and the control measures at preventing the introduction and spread of noxious weed species in the Project Area. The measurement indicators described in this analysis—for example, the number of existing infestations and the number of acres treated—would be used in this assessment. Post-treatment monitoring will identify the need for follow-up treatment, assess the effectiveness of the different treatment methods, and/or identify the need for alternative methods of control. Monitoring will be conducted by District personnel during and following project

implementation and is expected to greatly reduce the likelihood of uncontrollable weed spread in the Diamond Project Area.

HFQLG Pilot Project

The monitoring for the Diamond Vegetation Management Project, as part of the HFQLG Pilot Project, will be incorporated into the monitoring for this larger HFQLG Pilot Project.

The HFQLG Pilot Project Monitoring Plan, initiated in fiscal year (FY) 2000, provides a structure, in the form of questions, to gain information about (1) habitat concerns, (2) effects of implementing Pilot Project activities, (3) effectiveness of those activities, and (4) economic well-being. The monitoring plan, which includes a full description of these questions and their monitoring protocols, is available in the Diamond Project Record.

The “Habitat Concerns” section includes methods to assess habitat connectivity, old-forest habitat, and monitoring of aquatic- and riparian-dependent species. This section meets the requirement in the 1999 HFQLG final FEIS Record of Decision that states, “Over the course of the Pilot Project, suitable habitat for old-forest-dependent species and aquatic/riparian-dependent species (including amphibians) shall not be reduced by more than 10 percent below 1999 levels.”

The “Implementation Monitoring” section has three levels of assessment: project evaluations, interagency project reviews, and topic-specific questions. This section provides information about the degree to which treatments are implemented according to standards and guidelines set forth in the HFQLG Act final EIS, each Forest’s land and resource management plan, and site-specific direction. There are 10 topic-specific questions concerning forest structure, BMPs, soil quality, sensitive plants, noxious weeds, and air quality. These questions include information on objectives, scale, monitoring protocol, and estimated cost.

In the “Effectiveness Monitoring” section, 21 topic-specific questions address (1) old-forest values and old-forest-dependent species; (2) watershed effects; (3) wildfire protection and fuels reduction; (4) threatened, endangered, and sensitive plants; and (5) noxious weeds. These questions assess the degree to which implemented treatments meet resource objectives. The topic-specific questions also include information on objectives, scale, monitoring protocol, and estimated cost.

The “Economic Well-Being” section has been contracted to the Center for Economic Development in Chico, California, to collect and analyze data.

Plumas-Lassen Administrative Study

The Diamond Vegetation Management Project is incorporated into the Plumas-Lassen Administrative Study, also known as the “case study.” This study is interdisciplinary, examining at least five groups of response variables (spotted owls, small mammals, terrestrial birds, vegetation, and fuels conditions) through collaboration between researchers of the USDA Forest Service Pacific Southwest Research Station and cooperators from the University of California–Berkeley and Davis, and the Point Reyes Bird Observatory. The study addresses some of the most significant uncertainties that confound management decision in the Sierra Nevada today, including in the HFQLG Pilot Project Area; those are, “How do old-forest-dependent species respond to vegetation management over space and time?” “Do fuels management approaches effectively

address fuels loadings without negatively affecting species viability?” How effective are landscape-level fuels management strategies in modifying fire behavior and reducing the extent and severity of wildland fire?” These and related questions are the focus of the work being done in this study. A copy of the study is in the Diamond Project Record.