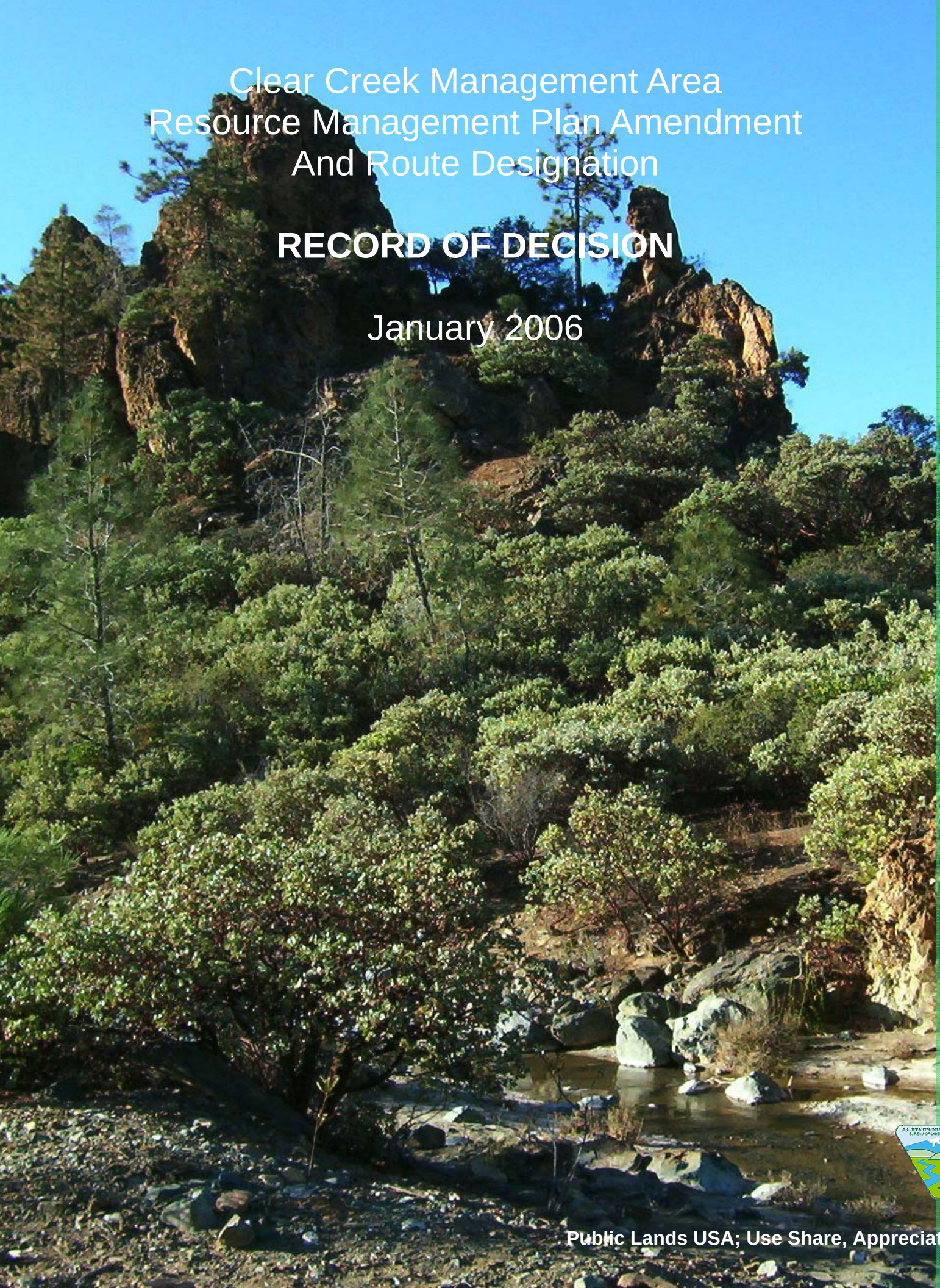

Clear Creek Management Area Resource Management Plan Amendment And Route Designation

RECORD OF DECISION

January 2006

BLM

Hollister Field Office

Public Lands USA; Use Share, Appreciate

Bureau of Land Management

Our Vision

To enhance the quality of life for all citizens through the balanced stewardship of America's public lands and resources.

Our Mission

To sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

Our Values

To serve with honesty, integrity, accountability, respect, courage, and commitment to make a difference.

Our Priorities

To improve the health and productivity of the land to support the BLM multiple-use mission.

To cultivate community-based conservation, citizen-centered stewardship, and partnership through consultation, cooperation, and communication.

To respect, value, and support our employees, giving them resources and opportunities to succeed.

To pursue excellence in business practices, improve accountability to our stakeholders, and deliver better service to our customers.

BLM/CA/ES-2005-006+ 1790-1600

CLEAR CREEK MANAGEMENT AREA RESOURCE MANAGEMENT PLAN AMENDMENT AND ROUTE DESIGNATION

RECORD OF DECISION

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January 2006

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01/13/2006
Date

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1/13/2006
Date

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RECORD OF DECISION

Summary

The Bureau of Land Management (BLM) is adopting decisions to: designate 242 miles of routes and 478 acres of barren areas as available for recreational off-highway vehicle (OHV) use; amend the Hollister Resource Management Plan (RMP) to include route and barren designation criteria; and amend the Hollister RMP to expand the San Benito Mountain Research Natural Area to approximately 4147 acres.

In accordance with a BLM regulation, 43 Code of Federal Regulations (CFR) 1610.5-2(b), all protests to the Director were resolved prior to approving this Record of Decision (ROD).

Alternatives

The CCMA Draft RMP Amendment and Draft Environmental Impact Statement (EIS) analyzed four alternatives. BLM developed these alternatives on the basis of, and in response to substantive public input on the existing environment, existing uses, desired future uses, and desired environmental conditions of the CCMA. Alternative A was the preferred alternative, which proposed to balance recreational OHV use and resource protection. Alternative B focused on enhancing motorized recreational opportunities and Alternative C emphasized resource protection. Alternative D, the no action alternative, corresponded to the existing management as established by existing laws, regulations, and the CCMA management plan, as amended in 1999.

Within the CCMA, the Limited Use Area restricts OHV use to designated roads and trails. Therefore, all the action alternatives designated specific routes (roads, ways, trails) within the CCMA as open, limited, or closed. The alternatives also designated barrens as open or closed. All routes not designated as open or limited were designated closed. The designation of routes, trails, and areas for use within the CCMA will enhance protection of the sensitive habitat and species that occur throughout the CCMA by reducing unregulated vehicle use, erosion, sediment yield, and impacts to watershed resources.

Alternative C, “Enhanced Resource Protection”, is the environmentally preferable alternative due to its focus on protection of natural and cultural resource values. In the Draft EIS (Chapter 4, “Environmental Consequences”), Alternative C reported the greatest number of moderate or major beneficial effects among the three action alternatives.

Management Considerations and Decision Rationale

BLM has determined that the decisions, as described in this ROD, best meet the purpose and need for administering the CCMA. The factors considered by BLM in approving this ROD include: alternatives described in the CCMA Draft RMP Amendment and Draft EIS; impacts from those alternatives; decisions analyzed in the 1995 Final EIS and adopted in the 1999 ROD;

the purpose and need for the action; and public comments and agency input provided throughout the planning process. This Record of Decision consists of the Proposed Action identified in the CCMA Proposed RMP Amendment and Final EIS, with minor revisions based on comments received on the Proposed RMP Amendment and Final EIS. Changes to the Proposed Action are identified below.

Eleven protest letters were received and responded to by the BLM Director. The primary concern expressed by the public through the planning process was that the CCMA RMP Amendment should be consistent with the 1999 CCMA Record of Decision (ROD). The 1999 ROD emphasizes the importance of managing special status species in accordance with Section 7 of the Endangered Species Act, while continuing to allow OHV use on routes in the CCMA. The approved decisions focus on meeting this central theme, while accommodating a variety of issues and concerns for area resources.

Changes to Proposed Action

After considering all of the comments submitted, the BLM determined that the Proposed Action, as described in the Proposed RMP Amendment and Final EIS, best meets the purpose and need for the project, with the following exceptions:

- The "Stopping and Parking" provision, as described in Section 2.4.1 of the Proposed RMP Amendment and Final EIS is not included in the decisions approved by this ROD. BLM will develop provisions for stopping and parking of OHVs in CCMA in accordance with 43 CFR 8365.1-6; Supplementary Rules.

- "Sensitive Resource Screening" outlined on page 2-13 of the Proposed RMP Amendment and Final EIS states, "Work on routes will not take place until a screen for sensitive resources (TE plants, animals, cultural resources, mine sites, riparian corridors, stream crossing and vernal pools, etc.) by appropriate staff is completed." This document clarifies that "sensitive resources" includes special status species.

- Mitigation measures identified on page 4-17 of the Final EIS are revised to clarify that monitoring pertains to all unprotected populations of special status plant species for possible adverse impacts from vehicles and other uses and protective actions will be implemented as warranted.

- BLM will restore at least 50 miles of closed routes within five years of issuing the ROD. This supersedes any other stated route restoration targets in the Proposed Plan Amendment and Final EIS.

- Page 4-26 of the Final EIS states "R010, T154, and T155 would be closed to OHV recreation use resulting in significant reductions in off-route and cross country travel in these areas, thus affording greater protection to the plant communities within the [San

Benito Mountain Research Natural Area]." This ROD clarifies that it is R010C that is closed, and that R010A and R010B remain open, as outlined in Appendix A and on Map 1-1.

- Technical corrections to certain route mileages and names are made in Appendix A. In addition, closed routes are identified and added to Appendix A.

Mitigation and Monitoring

Approved mitigation measures represent all practicable means to avoid or minimize environmental harm from the decisions adopted in this ROD. These mitigation measures were identified in Chapter 4 and Appendix A of the CCMA Proposed RMP Amendment and Final EIS.

Monitoring is an essential component of natural resource management because it provides information on changes in resource use, condition, processes, and trends. Monitoring also provides information on the effectiveness of management activities and strategies. Implementation of the decisions in this ROD will be monitored to ensure that management actions follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring).

Monitoring protocols meet or exceed the requirements mandated by the California Department of Parks and Recreation, Off-Highway Motorized Vehicle Recreation (OHMVR) Division. The protocols require monitoring of all designated OHV trails on BLM administered public lands in California that benefit from Green Sticker Funds granted to the BLM by the OHMVR Commissioners. Yearly monitoring of designated routes will be conducted in accordance with these protocols, which are available at the Hollister Field Office.

Agency and Public Participation

The Council on Environmental Quality regulations (40 CFR 1501.7) and BLM planning regulations (43 CFR 1610) require an early and open process for development of an RMP amendment. BLM initiated the planning process for this effort with a Notice of Intent in the Federal Register on April 29, 2003, and initiated a 30-day comment period for scoping; however, public comments were accepted and considered throughout development of the Draft RMP Amendment and Draft EIS. BLM received 179 letters from various members of the public and other agencies from May 2003 to May 2004. In response to these comments, BLM determined that it would revise the original RMP amendment and environmental assessment and instead develop an EIS for the decisions being considered.

The Draft RMP Amendment and Draft EIS was released to the public for a 120-day comment period on July 19, 2004. During this review period, BLM conducted three public meetings to receive comments. Approximately 275 people attended the public meetings. In addition to the

comments gathered during the public meetings, BLM received 848 written comments and electronic mail (email) letters from agencies, individuals, and organizations.

Coordination with the U.S. Fish and Wildlife Service (FWS) has been ongoing throughout the planning process with frequent communications (phone, email, submission of reports), meetings, and onsite visits to the CCMA. BLM prepared a Biological Assessment for the Proposed Action in January 2005, which included a complete description of the action area and the proposed action and its effects on special status species. Based on findings in the Biological Assessment, BLM determined that the Proposed Action was not likely to adversely affect any special status species. On September 2, 2005, FWS issued a Biological Opinion for the CCMA Proposed RMP Amendment and Final EIS. The Biological Opinion concluded that implementation of the Proposed Action would not jeopardize the continued existence of any special status species.

In accordance with the Federal Land Policy and Management Act (FLPMA) and BLM planning regulations (43 CFR 1610.3-2), BLM provided the Governor of California with 60 days in which to identify any inconsistencies and submit recommendations. The Governor of the State of California in his letter dated November 28, 2005 stated, "Pursuant to 43 CFR 1603-2 [sic], and after consulting with affected State and Local agencies, the Governor's Office of Planning and Research (OPR) has determined that the BLM's Proposed Amendments to the Clear Creek Management Plan are not inconsistent with any state or local plans, policies, or programs."

Native American Consultation

Consultation with Native American interests began in September 2004. Government-to-government consultation occurred with the Tachi Yokuts in November 2004; no specific concerns were raised in the course of consultation with this tribe. In December 2004, individuals from the Ohlone Bear Clan (non-Federally recognized) approached the Hollister Field Office seeking to conduct Native American/California Indian ceremonies in the CCMA. Specific issues focused around the ability to maintain access to areas in the CCMA for traditional Native uses. No comments were received specific to the plan. Currently the Hollister Field Office continues to consult and coordinate with Native American tribes and individuals for traditional use needs in the CCMA as they arise.

Other Consultation

Coordination with other agencies was accomplished through frequent communications, meetings, and cooperative efforts between the BLM interdisciplinary team and involved federal, state, and local agencies and organizations. This included interaction and meetings with the Environmental Protection Agency, California Regional Water Quality Control Board, Monterey Bay Unified Air Pollution Control District, and California State Parks and Recreation OHMVR Division. BLM also notified affected elected officials in regard to the Proposed RMP Amendment and route designation through personal briefings, phone calls, and letters describing the management situation.

1.0 RECORD OF DECISION

It is the decision of the Bureau of Land Management (BLM) to approve the Clear Creek Management Area Resource Management Plan Amendment and Route Designations, as described in Section 3. This decision reflects the Proposed Action (Alternative A), as outlined in the 2005 Clear Creek Management Area (CCMA) Proposed Resource Management Plan (RMP) Amendment and Final Environmental Impact Statement (EIS), with the changes outlined in Section 1.3. of this Record of Decision (ROD). This decision was developed under the regulations implementing the Federal Land Policy and Management Act. An environmental impact statement was prepared in compliance with the National Environmental Policy Act. This decision considers public comments; best available scientific and technical information; and results of consultations with federal and state agencies, local governments, Native American tribal governments, a variety of non-governmental organizations, and numerous individuals.

Decisions that amend the Hollister RMP (1984), as amended, are:

- Adoption of the criteria for future route and barren designations for off-highway vehicle (OHV) use. (See Section 3.2.3, Section 3.5, Appendix A, and Appendix B).
- Designation of barren areas as open or closed areas for OHV use. (See Section 3.2.2, Section 3.5, Appendix B, and Map 1-1).
- Designation of expanded boundaries for the San Benito Mountain Research Natural Area. (See Section 3.3 and Map 1-1).

Decisions that implement the Hollister RMP, as amended, are:

- Designation of routes as open, closed, or limited to off-highway vehicle (OHV) use. (See Section 3.2, Section 3.7, Appendix A, and Map 1-1).
- Mitigation and monitoring measures. (See Section 1.4, Section 3.4, Section 3.6, Section 3.8, Appendix C, and Appendix D).
- Adoption of the Interim Management Plan for the San Benito Mountain Research Natural Area. (See Appendix E).

1.1 ALTERNATIVES

The CCMA Draft RMP Amendment and Draft EIS analyzed four alternatives. BLM developed these alternatives on the basis of, and in response to substantive public input on the existing environment, existing uses, desired future uses, and desired environmental conditions of the CCMA. Alternative A was the preferred alternative, which proposed to balance recreational OHV use and resource protection. Alternative B focused on enhancing motorized recreational opportunities, and Alternative C emphasized protecting resources. Alternative D (No Action) corresponded to existing management as established by existing laws, regulations, and the CCMA management plan, as amended in 1999. These alternatives are summarized below.

Alternative A (Proposed Action)

Alternative A, identified as the preferred alternative, proposed to achieve the BLM's resource management goals by balancing resource protection and recreation opportunities in Clear Creek Management Area. Alternative A, as revised as the Proposed Action in the Final EIS, contained the following key components:

- Balance resource protection and OHV recreation in CCMA.
- Designate a network of 242 miles of routes "Open" or "Limited" for OHV use, and designate 478 acres of open play areas (a.k.a. barrens) for OHV use.
- Expand the boundaries of the San Benito Mountain Research Natural Area up to 4147 acres.
- Incorporate lands acquired from previous land tenure adjustments in the CCMA.

Alternative B (Enhanced Recreation Opportunities)

Alternative B proposed to achieve the BLM's resource management goals with an emphasis on enhancing recreation opportunities in Clear Creek Management Area. Alternative B contained the following key components:

- Emphasize OHV recreation opportunities.
- Designate a network of 245 miles of routes "Open" or "Limited" for OHV use, and designate 813 acres of open play areas (a.k.a. barrens) for OHV use.
- Expand the boundaries of the San Benito Mountain Research Natural Area up to 3522 acres.
- Incorporate lands acquired from previous land tenure adjustments in the CCMA.

Alternative C (Enhanced Resource Protection)

Alternative C proposed to emphasize natural and cultural resource protection in CCMA. To achieve this goal, BLM would have used stringent mitigation measures to minimize or eliminate adverse impacts to resources. Alternative C contained the following key components:

- Emphasize protection of special status species.
- Designate a network of 203 miles of routes "Open" or "Limited" for OHV use, and designate 466 acres of open play areas (a.k.a. barrens) for OHV use.
- Expand the boundaries of the San Benito Mountain Research Natural Area up to 4580 acres.
- Incorporate lands acquired from previous land tenure adjustments in the CCMA.

Alternative D (No Action)

The No Action alternative corresponded to existing management as established by existing laws, regulations, and the CCMA management plan, as amended in 1999. Resources would receive management emphasis at present levels (maintaining existing conditions). CCMA remained a "Limited Use Area" where vehicle use was limited to "existing routes". These "existing routes" were comprised of 440 miles of routes in the BLM's CCMA route inventory database, in accordance with the 1999 Amendment. Alternative D contained the following key components:

- Emphasize protection of special status species.
- Allow OHV use on 398 miles of routes, and 2800 acres of open play areas (a.k.a. barrens) in CCMA.
- Maintain the existing boundary of the SBMRNA.

Comparison of Alternatives

The number of miles of routes designated open for OHV use varied among alternatives A, B, and C with the highest mileage available being 245 and the lowest available being 199 miles. Therefore, all the action alternatives represented a reduction of routes open for OHV use when compared to the No Action Alternative, which allowed OHV use on approximately 440 miles of routes.

Alternatives A and C proposed 466 acres in barren areas as open for use. Although this represented an 81% reduction from the 2800 acres available under the No Action Alternative, many of these barrens in the inventory are already closed (SBMRNA, mine areas) or on private or State land. Under Alternative A and C, only the Clear Creek watershed contained designated barren play areas. In the other watersheds, all barrens were closed to OHV use. Barrens within the three Clear Creek sub-watersheds with the highest erosion were closed, contributing to a reduction in sediment yield. Alternative B proposed designating 813 acres of serpentine barrens as open and only exceeded Alternatives A and C by 347 acres. However, under Alternative B, the additional 347 open acres included a serpentine barren/Jeffrey pine habitat mosaic area known as "The Bowl". Continued OHV recreation use in "The Bowl" would increase Jeffrey pines root exposure, Jeffrey pine seedling and sapling damage by vehicles, as well as soil compaction and soil loss that would inhibit germination. Erosion and sediment transport related to OHV use from this barren would also impact this unique forest community and watershed resources in Cantua Creek.

The reduction of open routes, and the elimination of cross-country use will diminish habitat fragmentation, auditory disturbance, and the probability of plants being crushed by vehicles will be lessened through all action alternatives in upland and riparian wildlife habitats. The elimination of all barrens of low hydrographic position will reduce the sediment flow into watersheds within the CCMA increasing the protection and decreasing the negative impacts to the sensitive riparian areas and animal species.

Under Alternatives A, B, and C the establishment of a designated route system throughout the CCMA would have resulted in both positive and negative impacts to recreation resources. Maps, signage, and trail maintenance would have increased safety and security for people riding in the back country; yet protective measures such as fencing, routine maintenance, and the designated route system created a much more regulated environment. However, implementation of Alternatives A, B, or C was not expected to result in any changes in the number or type of recreation user, and visitation trends are expected to remain fairly constant with moderate yearly increases.

Compared to existing conditions, Alternatives A, B, and C, reduced adverse impacts to resources in varying degrees. Accordingly, air quality, amount of OHV use, and particulate emissions remained unchanged as a result of all the alternatives except D. Though the particulate emissions varied among Alternatives A, B, and C, the differences were nominal. All of the alternatives except the No Action Alternative reduced the number of miles of unpaved roads measurably reducing soil disturbing activities therefore reducing the transportation of heavy metals and asbestos in watersheds where the highest levels of background concentrations of hazardous metals are present.

Impacts to four BLM special status species, foothill yellow-legged frog, two-striped garter snake, and the western pond turtles, known to populate riparian areas within the CCMA, decreased through all action alternatives.

Route and barren designation decreased impacts in adjacent upland habitats, decreased potential erosion, and sediment yield, contributing to reductions in habitat degradation in riparian areas. This was to be accomplished by reducing the number of stream crossings and miles of routes in riparian areas by approximately 50 percent, and reducing soil disturbing activities by reducing the number of miles of unpaved roads by up to 49 percent and reducing the acres of barren play areas by up to 83 percent. Considering estimates that nearly half the sediment delivered to streams within the CCMA come from stream and swale crossings, this reduction in the number of crossings resulted in substantial reductions in sediment delivery and associated impacts to riparian and sensitive species habitat.

Under Alternatives A, B, and C, the boundaries of the San Benito Mountain Research Natural Area (RNA) expanded to protect three known San Benito evening primrose populations, and to protect an additional thirteen acres of San Benito evening primrose habitat. Alternative A expanded the RNA boundary to 4,147 acres. Under this alternative, three additional miles of streambank primrose habitat along upper Clear Creek were incorporated into the RNA, furthering the long-term protection of this species. Alternative B offered less protection of pine forests and woodland areas requiring more fencing and law enforcement; while Alternative C expanded the boundaries of the RNA to 4,580 acres to include one of two known populations of the Mt Diablo phacelia.

Alternatives A, B, and C resulted in a decrease in the routes and areas available for OHV recreation. However, BLM did not anticipate that this would result in a curtailment of OHV recreation related activities.

Social and economic impacts relate to the effects of alternatives on social and economic well being. The types of impacts that could affect social and economic well being include the types and quantities of the recreation experience that is available. Additional social and economic impacts include conflicts concerning resource use and any potential effects to the economics or demographics of the region surrounding CCMA. However, BLM did not expect that any of the alternatives for CCMA would adversely impact social and economic resources in the area. BLM also determined that none of the alternatives have disproportionately adverse impacts on minority or low-income populations.

Environmentally Preferable Alternative

A federal regulation (40 Code of Federal Regulations [CFR] 1505.2 [b]) requires that an agency identify the “environmentally preferable” alternative or alternatives in the ROD. The Council on Environmental Quality (CEQ) has stated that "The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Generally this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources." (CEQ, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations,” Federal Register Vol. 46, No. 55, 18026-18038, March 23, 1981: Question 6a.)

NEPA's Section 101 establishes the following goals:

- Fulfills the responsibility of this generation as trustee of the environment for succeeding generations (NEPA §101(b)(1)),
- Assures for all Americans productive and aesthetically and culturally pleasing surroundings (NEPA §101(b)(2)),
- Attains the widest range of beneficial uses of the environment without degradation or other undesirable and unintended consequences (NEPA §101(b)(3)),
- Preserves important natural aspects of our national heritage and maintains an environment which supports diversity and variety of individual choice (NEPA §101(b)(4)),
- Achieves a balance between population and resource use, which permits high standards of living and a wide sharing of life's amenities (NEPA §101(b)(5)), and
- Enhances the quality of renewable resources and approach the maximum attainable recycling of depletable resources (NEPA §101(b)(6)).

Alternative C, Enhanced Resource Protection, is the environmentally preferable alternative due to its focus on protection of natural and cultural resource values. In the Draft EIS (Chapter 4, “Environmental Consequences”), Alternative C reported the greatest number of moderate or major beneficial effects and the fewest moderate to major adverse impacts among the alternatives.

1.2 MANAGEMENT CONSIDERATIONS AND DECISION RATIONALE

The factors considered by BLM in approving the decision contained herein include: alternatives described in the CCMA Draft RMP Amendment and Draft EIS; impacts from those alternatives; decisions analyzed in the 1995 Final EIS and adopted in the 1999 ROD; the purpose and need for the action; and public comments and agency input provided throughout the planning process. This Record of Decision consists of the Proposed Action identified in the CCMA Proposed Plan and Final EIS, with minor revisions based on comments received on the Proposed RMP/FEIS. Changes to the Proposed Action are identified in Section 1.3 of this Record of Decision.

The decisions adopted herein implement certain decisions contained in the 1999 CCMA Record of Decision, which required BLM to designate routes and areas for OHV use in CCMA and define boundaries for the San Benito Mountain Research Natural Area expansion. These decisions best address the diverse community and stakeholder concerns in a fair and equitable manner; provide a range of OHV recreational opportunities are provided in the areas of highest demand while protecting sensitive resources through closures, monitoring and the ability to adapt management to future conditions. The decisions being adopted provide a reasonable framework for future management of the planning area by establishing criteria for future designations of routes and barren areas and establishing monitoring protocols to inform future management decisions. The adopted decisions will protect the unique forest assemblage and Wilderness Study Area values of the San Benito Mountain Research Natural Area by expanding the boundary to include areas containing these sensitive resources. The designation of a route network and barren area designations and the adopted mitigation measures will enhance protection and monitoring for Federally-listed and State-listed special status species. These designations focus OHV use away from sensitive species and their habitats. The mitigation measures provide proactive interventions to help sustain and enhance these species.

By accomplishing the described outcomes, BLM has determined that the decisions, as described in this ROD, best meet the purpose and need for the project. Additional discussion of management considerations and rationale are provided with decision points in Section 3 and in the Final EIS.

Protests

Any person who participated in the planning process and had an interest that may have been adversely affected by the Proposed Action, as described in the Proposed Plan Amendment and Final EIS, had standing to protest. Protests could only raise those issues that were submitted for the record during the planning process. The protest had to be filed within 30 days from the date the Environmental Protection Agency published the notice of availability for the CCMA Proposed RMP Amendment and Final EIS in the Federal Register. Letters from protestors whom BLM determined to have standing were reviewed, and protest issues and comments were identified. Eleven protest letters were received. Each protest issue was responded to by the BLM Director, and those responses were included in return letters to each protestor. In accordance with BLM regulations, 43 Code of Federal Regulation 1610.5-2(b), all protests to the Director were resolved prior to approving the RMPA.

1.3 CHANGES TO PROPOSED ACTION

The primary concern expressed by the public through the planning process was that the CCMA RMP Amendment be consistent with the 1999 CCMA Record of Decision (ROD). The 1999 ROD emphasizes the importance of managing special status species in accordance with the Endangered Species Act, while continuing to allow off-highway vehicles (OHVs) on routes and trails in the CCMA. The plan amendment and route designation focus on meeting this central theme, while accommodating a variety of issues and concerns for area resources. After considering all of the comments submitted on the Draft RMP/DEIS and protests on the Proposed RMP/FEIS, the BLM determines that the Proposed Action, as described in the Proposed RMP Amendment and Final EIS, best meets the purpose and need for the project, with the following changes:

- The "Stopping and Parking" provision, as described in Section 2.4.1 of the Proposed RMP Amendment and Final EIS is not included in the decisions approved by this ROD. BLM will develop provisions for stopping and parking of OHVs in CCMA in accordance with 43 CFR 8365.1-6; Supplementary Rules.

- "Sensitive Resource Screening" outlined on page 2-13 of the Proposed Plan Amendment and FEIS states, "Work on routes will not take place until a screen for sensitive resources (TE plants, animals, cultural resources, mine sites, riparian corridors, stream crossing and vernal pools, etc.) by appropriate staff is completed." This document clarifies that "sensitive resources" includes special status species.

- Mitigation measures identified on page 4-17 of the Final EIS are revised to clarify that monitoring pertains to all unprotected populations of special status plant species for possible adverse impacts from vehicles and other uses, and protective actions will be implemented as warranted.

- BLM will restore at least 50 miles of closed routes within five years of issuing the ROD. This supersedes any other stated route restoration targets in the Proposed Plan Amendment and Final EIS.

- Page 4-26 of the Final EIS states "R010, T154, and T155 would be closed to OHV recreation use resulting in significant reductions in off-route and cross country travel in these areas, thus affording greater protection to the plant communities within the [San Benito Mountain Research Natural Area]." This ROD clarifies that R010C is closed, and that R010A and R010B remain open, as outlined in Appendix A and on Map 1-1.

- Technical corrections to certain route mileages and names are made in Appendix A. In addition, closed routes are identified and added to Appendix A.

1.4. MITIGATION AND MONITORING

Approved mitigation measures represent all practicable means to avoid or minimize environmental harm from the approved decisions. All mitigation measures from Chapter 2.6, Chapter 4, and Appendix A of the Final EIS are adopted and outlined in Section 3 of this Record of Decision.

This ROD incorporates a comprehensive monitoring program (see ROD Section 3 and Appendix C) to ensure that implementation of the decisions achieves BLM goals and objectives for natural and cultural resources on public lands. Monitoring is an essential component of natural resource management because it provides information on changes in resource use, condition, processes, and trends. Monitoring also provides information on the effectiveness of management activities and strategies. Implementation of the decision contained herein will be monitored to ensure that management actions follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring).

1.5 AGENCY AND PUBLIC PARTICIPATION

The Council on Environmental Quality regulations (40 CFR 1500) and BLM planning regulations (43 CFR 1610) require an early and open process for development of an RMP amendment. Extensive efforts were made to make the public and agencies aware of the planning process and of opportunities for involvement in that process.

Public Scoping

BLM initiated the planning process for this effort with publication of a Notice of Intent in the Federal Register on April 29, 2003, and initiated a 30-day comment period for scoping. Public comments were accepted and considered throughout development of the Draft RMP Amendment and Draft EIS. 179 scoping comments were received from May 2003 to May 2004. In response to these comments, BLM determined that it would revise the original RMP amendment and environmental assessment and instead develop an EIS for the decisions being considered.

Public Review of the Draft RMP Amendment and Draft EIS

The Draft RMP Amendment and Draft EIS was released to the public for a 120-day comment period on July 19, 2004. During this review period, BLM conducted three public meetings to receive comments. Verbal comments were recorded at the public meetings. Approximately 275 people attended the public meetings. In addition to the comments gathered during the public meetings, BLM received 848 written comments and electronic mail (email) letters from agencies, individuals, and organizations. BLM developed written responses that were included in Appendix J and Appendix K of the Proposed RMP Amendment and Final EIS.

Endangered Species Act Consultation

Federal regulations (50 CFR 402) implementing the provisions of Section 7 of the Endangered Species Act (ESA), require BLM and other federal agencies to consult with the U.S. Fish and Wildlife Service (FWS) for terrestrial and freshwater species on projects, plans, and actions that may negatively affect a threatened or endangered species.

Formal Consultation with FWS was conducted on the 1995 proposed amendment to the Hollister RMP for Clear Creek and a Biological Opinion issued in 1997. Subsequent coordination with the FWS has been ongoing throughout the planning process with frequent communications (phone, email, submission of reports), meetings, and onsite visits to the CCMA. On January 12, 2005 an initial Request for Initiation of Formal Section 7 Consultation on the Draft RMP Amendment and Draft EIS was sent to the FWS. BLM prepared a Biological Assessment for the Proposed Action in January 2005, which included a complete description of the action area and proposed action and its effects on special status species. Based on findings in the Biological Assessment, BLM determined that the Proposed Action was not likely to adversely affect any special status species. A subsequent memorandum dated April 14, 2005, transmitted the Biological Assessment and supporting documentation in relation to the Request for Initiation of Formal Section 7 Consultation. On September 2, 2005, FWS issued a Biological Opinion for the CCMA Proposed RMP Amendment and Final EIS. The Biological Opinion concluded that implementation of the Proposed Action would not jeopardize the continued existence of any special status species.

Governor's Consistency Review

BLM submitted the Draft RMP and Draft EIS to the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit (SCH # 2004014002) on September 16, 2004. No state agencies commented on the Draft RMP/Draft EIS to the Clearinghouse. In accordance with the Federal Land Policy and Management Act (FLPMA) and BLM planning regulation (43 CFR 1610.3-2), BLM RMPs must be consistent with officially approved or adopted resource related plans of state and local governments and must identify any known inconsistencies with state or local plans, policies, or programs. BLM also must provide the Governor with up to 60 days in which to identify any inconsistencies and submit recommendations. On June 8, 2005, BLM submitted the Proposed RMP/Final EIS to the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit for review.

The Governor of the State of California in his letter dated November 28, 2005 stated, "Pursuant to 43 CFR 1603-2 [sic], and after consulting with affected State and Local agencies, the Governor's Office of Planning and Research (OPR) has determined that the BLM's Proposed Amendments to the Clear Creek Management Plan are not inconsistent with any state or local plans, policies, or programs."

Human Health

The US Environmental Protection Agency (EPA) and the California Department of Toxic Substances Control (DTSC) have voiced concerns regarding possible impacts to public health and safety from naturally-occurring asbestos within the CCMA. BLM has agreed to work with the EPA to address the human health risk associated with naturally occurring asbestos, and the Hollister Field Office will continue to consult with DTSC, the State Air Resources Board, the State Water Resources Board, and the Monterey and San Joaquin Air Pollution Control Districts regarding concerns for public health and safety.

National Historic Preservation Act

The California BLM and the California State Historic Preservation Officer (SHPO) operate under a statewide Programmatic Agreement (PA) that fulfills the requirements set forth in the National Historic Preservation Act (NHPA). This PA prescribes the manner in which the BLM and the SHPO shall cooperatively implement the National Programmatic Agreement in California developed among the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. The PA is "intended to ensure that the BLM organizes its programs to operate efficiently and effectively in accordance with the intent and requirements of the NHPA and that the BLM integrates its historic preservation planning and management decisions with other policy and program requirements" (Protocol Agreement, Preamble, p.2-3).

As part of the PA, it is directed that at "the earliest stage of the planning process, each Field Office responsible for preparing a land use plan or significant amendments or revisions at the regional or local level shall ensure invitation of the SHPO to participate in the planning effort, including commenting on proposed resource use allocations…All draft and final land use plans and cultural resource preservation project plans shall be submitted to the SHPO for review and comment" (Protocol Agreement; Part II. Procedures, subpart D. SHPO Involvement in the BLM Cultural Resource Program, (1) Planning Efforts, p.6).

In accordance with these provisions of the PA, consultation between BLM and SHPO was initiated in 2004 with the release and distribution of the Draft RMP Amendment/Draft EIS. BLM also submitted a copy of the Proposed RMP/Final EIS to SHPO in September 2005. No concerns were expressed during either comment period. During activity-level planning efforts subsequent to the approval of the Proposed RMP/Final EIS, SHPO will be afforded an opportunity to review and comment.

Air Quality Conformity Determination

On December 6, 2005, the BLM National Science and Technology Center completed a Conformity Analysis Certification for the CCMA Proposed RMP Amendment that states, "This project has been determined to conform with all applicable local, state, and federal air quality laws, regulations, and statutes as defined in the San Joaquin Valley, CA (Fresno County) Planning Area Implementation Plan(s)." This Conformity Analysis Certification is included as Attachment 1 to this Record of Decision.

Native American Consultation

BLM recognizes the importance of the continuing government-to-government relationship with tribal entities. BLM follows 36 CFR 800.2(c)(2) and the protocols and guidelines established in the BLM Cultural Resources Program in order to conduct consultation with the American Indian community. Non-Federally recognized Indian communities and individual members are encouraged to raise issues, express concerns, provide information and identify resources and places they would like the BLM to consider in decision making. The BLM solicits such input through the public participation opportunities afforded by BLM's land use planning and environmental review processes, government-to-government consultation and the development of Agency/Tribe protocol agreements. BLM takes into account any confidentiality concerns raised by Indian tribes during the identification process (Protocol Agreement; Part IV. American Indian Participation, p.12).

Consultation with Native American interests began in September 2004, with letters and copies of the DEIS sent to the Federally-recognized Santa Rosa Rancheria Tachi Yokuts Tribe and to the non-Federally recognized Indian Canyon Ohlone/Costanoan group. Additional face-to-face consultation occurred with the Tachi Yokuts in November 2004; no specific concerns were raised in the course of consultation with this tribe. In December 2004, individuals from the Ohlone Bear Clan (non-Federally recognized) approached the Hollister Field Office seeking to conduct Native American/California Indian ceremonies in the CCMA. At that time face-to-face meetings were initiated to discuss their concerns, a copy of the DEIS was provided to them, and coordination began. Specific issues focused around the ability to maintain access to areas in the CCMA for traditional Native uses. In September 2005, these tribal entities received copies of the FEIS. No comments were received specific to the plan. Currently the Hollister Field Office continues to consult and coordinate with Native American tribes and individuals for traditional use needs in the CCMA as they arise.

Other Consultation

Coordination with other agencies and consistency with other plans for the Proposed RMP Amendment was accomplished through frequent communications, meetings, and cooperative efforts between the BLM interdisciplinary team and involved federal, state, and local agencies and organizations. This included interaction and meetings with the California Regional Water Quality Control Board, Monterey Bay Unified Air Pollution Control District, California State Parks and Recreation Off-Highway Motor Vehicle Recreation Division, and annual OHV grant workshops. BLM also notified affected elected officials in regard to the Proposed RMP Amendment and route designation through personal briefings, phone calls, and letters describing the management situation. These elected officials included US Senators Barbara Boxer and Diane Feinstein, US Congressman Sam Farr, and San Benito County officials.

Coordination with the U.S. Environmental Protection Agency (EPA) by phone, through various meetings, and coordination of studies and site management activities at the CCMA has occurred throughout the planning process. Topics discussed include comments on the Draft EIS, air and water quality, human health risks associated with exposure to naturally occurring asbestos and general project updates.

2.0 PLANNING FRAMEWORK

The following decisions contained in this Record of Decision amend the Hollister Resource Management Plan (1984), as amended, for the Clear Creek Management Area (CCMA):

- Adoption of the criteria for future route and barren designations for off-highway vehicle (OHV) use.
- Designation of barren areas as open or closed areas for OHV use.
- Designation of expanded boundaries for the San Benito Mountain Research Natural Area.

The following decisions contained in this Record of Decision implement the Hollister Resource Management Plan (RMP), as amended:

- Designate routes of travel and areas for motorized vehicle access as Open, Closed, or Limited.
- Mitigation and monitoring measures.
- Adoption of the Interim Management Plan for the San Benito Mountain Research Natural Area.

These decisions are tiered, in part, to the environmental analysis conducted in the Clear Creek Management Area Plan Amendment and Final Environmental Impact Statement (FEIS) (1995) and decisions adopted in the Record of Decision for the Clear Creek Management Area Plan Amendment (1999).

2.1 PURPOSE AND NEED

The purpose of this action is, within the Clear Creek Management Area, to:

- Refine criteria for route selection, designate routes of travel, and designate areas for motorized vehicle access as Open, Closed or Limited.
- Designate boundaries of the San Benito Mountain Research Natural Area (SBMRNA), and
- Incorporate acquired lands made through previous land tenure adjustments into the Clear Creek Management Area.

The need for this project is to implement certain decisions from the Hollister RMP, as amended, and provide management of acquired lands. The Record of Decision (ROD) for the Clear Creek Management Plan Amendment (1999) committed BLM to a future designation process for routes and areas based upon the following criteria:

- proximity to sensitive resources (stream crossings, special designations, Research Natural Area, biological and cultural resources, mine sites),
- private land,
- erosion hazards and maintenance concerns,
- motorized and non-motorized recreation opportunities, and
- administrative and local access.

The decisions contained herein refine the screening criteria and apply the criteria to the current inventory of routes in the CCMA. Specific routes are designated as open, closed, or limited, and areas are designated as open or closed. This is needed to establish a route system and to consider any changes to that route system in the future. This project also defines where route rehabilitation and restoration is appropriate. Restoration of closed routes will be analyzed under a subsequent environmental analysis.

The ROD (1999) also committed BLM to a public process for determining the boundaries for the expansion of the San Benito Mountain Research Natural Area (SBMRNA) to approximately 4,082 acres. This project defines its boundary and specifies resource use limitations.

Route designation decisions need to be made in concert with decisions on barren use designations and San Benito Mountain Research Natural Area boundary expansion to provide for effective management of the CCMA. An additional purpose of this plan amendment is to incorporate acquired lands made through previous land tenure adjustments into the CCMA, for the purposes of route designation. These lands are located primarily in the northeast portion of the CCMA.

2.2 PLANNING AREA

The Clear Creek Management Area (CCMA) is located in central California in the southern portion of San Benito County and the western portion of Fresno County as shown on Map 1-1. It encompasses approximately 63,000 acres of public land managed by the Hollister Field Office of the Bureau of Land Management (BLM). Management areas are typically larger units of public lands that have a degree of similarity with regard to resource characteristics and planning issues. This area has been used extensively for Off-Highway Vehicle (OHV)[1] recreation for many years. A variety of other recreation activities also occur within the CCMA including, hunting, rock-hounding, wildlife watching, and hiking.

Within the CCMA boundary is the Serpentine ACEC covering about 31,000 acres. Its 1984 designation was based on the health concerns associated with the naturally occurring asbestos within the serpentine soils and because of the unique vegetation and forest types associated with serpentine soil. The boundaries of the ACEC were defined by mapping of asbestos soils derived from the New Idria serpentine formation. This ACEC is sometimes referred to as the Hazardous Asbestos Area (HAA). Human disturbance to the soils and plants in the serpentine ACEC is a special management concern, because throughout the ACEC, soil formation tends to be slow and the topsoil shallow. Plant regeneration is also slow, and accelerated erosion from human activities has negatively impacted soil and vegetative resources over the years. Minimizing soil erosion and minimizing the damage to vegetation is a management priority.

[1] For many years the term "off-highway vehicle" (OHV) has been used by the public, industry, and the BLM interchangeably with the term "off-road vehicle" (ORV). However, only the term off-road vehicle has a legally established definition in the Presidential Executive Orders and the BLM's related 43 CFR 8340 regulations. In general, throughout this document we will refer to motorized OHV, except when discussing issues related to policy or regulations.

Within the Serpentine ACEC is the San Benito Mountain Research Natural Area (SBMRNA). This area was originally established as an Outstanding Natural Area in 1972, with an area of about 1,500 acres. The Record of Decision for the 1999 Amendment to the Plan required an environmental review for determining the boundaries of an expanded Research Natural Area (RNA). RNAs are designated for the protection of public lands having natural characteristics that are unusual or that are of scientific or other interest. The SBMRNA was designated because of the unique vegetative communities associated with the serpentine soils. Its primary purpose is to provide research and educational opportunities while maintaining and protecting a unique assemblage of vegetation in as natural condition as possible.

The Clear Creek Management Area is shown on Map 1-1 along with the area of the Serpentine ACEC and the SBMNRA. The acreages of these areas are shown in Table 1-1, with a breakdown of BLM, other agencies and private land ownership in the planning area.

Table 2-1. Land Ownership in the Planning Area

BLM	63,197	83.3	30,968	4,147
Private	10,668	14.1		
State	1,964	2.6		
Total	**75,829**	**100.0**	**30,968**	**4,147**

2.3 BACKGROUND

The Clear Creek Management Area has a long history of use and land use planning. The geologic features of the area (with many minerals including nickel, mercury, chromium, copper, magnisite and naturally occurring asbestos in serpentine soils) lead to intense scrutiny of the area.

2.3.1 Planning History

The Hollister Resource Management Plan (RMP), adopted in 1984, provides management guidance for the Clear Creek Management Area. The RMP outlined management goals and resource management decisions, and established the 31,000 acre Clear Creek Serpentine Area of Critical Environmental Concern within the 76,000 acre CCMA. It expanded the San Benito Mountain Natural Area to about 1880 acres. This RMP incorporated the existing OHV designations, which were originally adopted in 1982. The Hollister RMP also called for the preparation of watershed management guidelines (Best Management Practices) that were completed in 1984. These measures outlined management practices to control erosion and reduce sediment transport.

In 1986, a more detailed activity plan was prepared for the CCMA, to implement decisions adopted in the Hollister RMP and to incorporate the “Best Management Practices” from the watershed management guidelines. This Clear Creek Management Plan was developed to

manage a complex ecosystem comprised of sensitive and unique plant communities, a highly erosion-prone watershed, and unique serpentine soils containing naturally occurring asbestos.

In 1993, a draft Environmental Impact Statement was issued for the Clear Creek Management Area, in which six alternatives for management were analyzed. Alternatives ranged from continuing the existing management with the majority of routes and areas open, to OHV closure with vehicles limited to a small network of roads. After public comment, involvement with the Clear Creek Technical Review Team, intensive review of comments, and re-analysis of data, the BLM issued a final EIS (FEIS) in 1995 with a substantially modified proposed action. The text of the modified Alternative 3 is contained in section III of the ROD (1999).

The 1995 amendment to the Hollister RMP re-evaluated land use decisions that existed at the time. The amendment was based upon new information which became available on the asbestos related health risks and rare plant species. The RMP amendment responded to these new issues and addressed existing public uses within both the CCMA and the Serpentine ACEC. In the Clear Creek Management Area RMP Amendment and FEIS (1995), the following issues were identified and addressed in the alternative development, analysis, and impact assessment:

1) airborne asbestos emissions,
2) public health risks associated with asbestos exposure,
3) asbestos sediment production and transport,
4) San Benito evening primrose recovery,
5) watershed and riparian zone management, and
6) existing multiple uses.

2.3.2 Scoping / Issues

In accordance with the National Environmental Policy Act (NEPA), BLM issued a Notice of Intent to Prepare an Amendment to the Hollister Resource Management Plan for the Clear Creek Management Area in the Southern Portion of San Benito County and Western Fresno County, CA on April 29, 2003.

In response to the April 2003 Notice of Intent, BLM received 179 letters from various members of the public and other agencies. One-hundred and sixty-three (163) of these letters were form letters submitted by members of the Blue Ribbon Coalition stating their concerns of illegal closure of existing trails and open play areas, lack of public participation in analysis and decisions to close available routes, and potentially ‘significant’ changes to Clear Creek Management Plan that would require a new EIS rather than an EA.

As a result, BLM determined that it would be necessary to complete an environmental impact statement, instead of an environmental assessment as previously anticipated. BLM issued a Notice of Availability (NOA) on July 19, 2004 that contained a correction to the original Notice of Intent (NOI) to formalize this decision.

2.3.2.1 Issues Addressed

- Off-Highway Vehicle Management
- Special Status Species
- San Benito Mountain Research Natural Area Boundary Expansion

2.3.2.2 Issues Considered, but Not Further Analyzed

A. Non-motorized Recreation

Planning issues for CCMA such as camping, hunting, hobby gem/mineral collection, hiking, backpacking, camping, hang gliding, geocaching, nature study, and wildlife viewing were not considered as a part of this action, as they were addressed in Clear Creek Management Area Plan Amendment and Final Environmental Impact Statement (1995).

B. Human Health Risks from Naturally Occurring Asbestos

As impacts to human health are not necessarily related to the selection of a specific route network, issues related to human health risks from naturally occurring asbestos are not addressed in the CCMA Approved RMP Amendment. Instead, the risk of exposure to naturally occurring asbestos in CCMA will be analyzed in a subsequent planning process that will incorporate the results of a human health risk study that is being conducted by the Environmental Protections Agency and is expected to be released in 2006.

This study will provide further information on the exposure levels from various types of activities in the CCMA. Currently available results from recent sampling events are included in Appendix I of the CCMA Proposed Plan Amendment and Final EIS (BLM 2005). Initial results from the EPA study indicate that an environmental impact statement will be necessary to consider the new information and a range of management options for the CCMA. These initial results show some higher exposure values than the 1992 risk assessment. For example, the EPA data, sampled in September 2004, indicate that the tail rider in a line of three motorcycles was exposed to 0.955 fibers/cubic centimeter (f/cc), which is higher than concentrations reported for a tail motorcycle rider in the 1992 risk assessment.

Upon completion of this study, BLM will work with EPA and the public to appropriately respond to the new information. If the information is significantly different than the 1992 risk assessment, BLM will expeditiously initiate a NEPA process to consider the new information and potential management responses at the CCMA in light of any new findings. This subsequent NEPA process would address general public access and recreation at the CCMA and analyze a full range of alternatives. Chapter 4 of the CCMA Proposed Plan Amendment and Final EIS (BLM 2005) includes further discussion on the EPA study. BLM will involve the public in any additional NEPA analysis and in considering any management changes to the CCMA.

2.4 PLANNING CRITERIA

The following 'planning criteria' were presented in the CCMA Draft RMP Amendment (2004) to help guide the evaluation of alternatives and decisions in the CCMA Draft RMP Amendment and Draft EIS. These criteria were based on input from BLM specialists, other agencies, and the public.

- The final designation of the route and barren network, and boundaries of the SBMRNA, must provide for the needs of the public land user, while protecting sensitive species and habitat, protecting natural and cultural resources, and protecting the unique ecosystem within the SBMRNA.

- Designation decisions will be based on a variety of data, including previous studies, field inventory data, biological, environmental, cultural, and natural and recreation resources, land use, and land ownership.

- The process will consider the level of impact of each route and barren; the number, density, and intensity of use of each route and area and its relationship to habitat fragmentation and cumulative effects; and ways to minimize the number and intensity of conflicting land uses.

- BLM would comply with the 1998 Programmatic Agreement (PA) between California BLM and the California State Historic Preservation Officer (SHPO).

- Best Management Practices (BMP) related to watershed improvement and road maintenance projects would continue to be implemented to reduce erosion and off-site sedimentation transport.

- BLM would obtain California Department of Fish and Game permits and Clean Water Act Section 404 permits from the U.S. Army Corps of Engineers, for stream alteration and BMP watershed management practices as necessary and appropriate.

- Open or limited routes may be closed temporarily if necessary according to soil loss assessment, resource impacts, or required maintenance. Emergency limitations or closures are not OHV designations, but remain in effect until the adverse effects are eliminated, measures are in place to prevent their recurrence, or revised OHV designations are adopted.

- All route maintenance activities would be addressed in an annual corrective route maintenance plan, and would undergo environmental review by appropriate staff. Route maintenance activities would be conducted in a manner that avoids impacts to sensitive resources, species, and habitats.

- Any and all route work would avoid a "may affect" situation for the San Benito evening-primrose (*Camissonia benitensis)*. Accordingly, maintenance at some locations might be only partially implemented, or modified, or deferred.

- Routes that enter privately owned land would be designated as closed if requested by the private landowner. Landowners within the CCMA will be contacted during the public comment period. Any requests for closure would be incorporated into the Proposed Plan Amendment. BLM may negotiate reciprocal rights-of-way as appropriate to maintain the integrity of the route network.

- All lands recently acquired within the CCMA boundaries by BLM would be incorporated into this designation project and plan amendment for the purposes of OHV designations only.

- The Research Natural Area expansion would be protected from mining.

2.5 CONSTRAINTS

BLM used the best available data for decisions on process and evaluation of resource conditions and impacts, implementation of monitoring, enforcement, route restoration and route maintenance. Assessments of route condition and soil loss support decisions used in route designations. Information gathered in the future may lead to a re-evaluation of, and possible change in, route and area designation.

Public lands within the CCMA adjoin private lands and lands managed by other agencies. The decisions herein only apply to lands managed by the BLM. The owners and managers of other lands may allow, close or restrict the use of segments of routes that cross their lands at any time.

Some routes on public lands are also county roads. These roads are a part of the overall route network and may be shown on route network maps; however, BLM designation decisions do not apply to county or private roads.

The decisions will not affect any right of access that may be determined to exist to private lands in CCMA. Such access rights and specific requests for access would involve separate and independent analyses and decisions. A resource management plan or plan amendment decision also does not affect current or future opportunity for any party to assert a claim for right of access under R.S. 2477. Therefore, this project does not address general or specific rights of access over federal lands in CCMA. However, it is intended that the analysis address an anticipated general level of vehicle access to private land so that it could satisfy the requirement for NEPA analysis for any such requests in the future.

2.6 PLANNING PROCESS

2.6.1 Relationship to BLM Policies, Plans, and Programs

A. Existing BLM Policy for Clear Creek Management Area

- As stated in the 1997 Biological Opinion, compliance monitoring will be conducted for the protection of San Benito evening-primrose (CABE) to document the condition of the species, habitat, and the protective measures in place. This monitoring will be conducted according to the Compliance Monitoring Plan for CABE, developed in coordination with FWS, and may be revised as necessary based on adaptive management. Monitoring will record direct disturbance to CABE, CABE habitat, and CABE potential habitat by off-highway vehicle use, including but not limited to tire tracks, trampling of plants, soil compaction, soil displacement, seed displacement, and soil erosion and sedimentation. Biologists will visit occurrences monthly from October to May and on a less frequent basis during the off-season. Additional BLM staff will monitor integrity of protective measures on a more frequent basis. The intensity and extent of disturbance at each occurrence will be evaluated annually with FWS to determine adaptive management. BLM will coordinate with FWS in revising the compliance monitoring plan to promote the long-term conservation of the primrose. Annual population census monitoring will be conducted and reported to FWS.

- BLM will comply with the 1998 Programmatic Agreement (PA) between California BLM and the California State Historic Preservation Officer (SHPO). BLM meets annually with the California SHPO to renew this agreement. The PA was developed to fulfill the responsibilities of the National Historic Preservation Act (NHPA) and to implement the National Programmatic Agreement (NPA) between the BLM, the Advisory Council on Historic Preservation (ACHP), and the National Conference of State Historic Preservation Officers. The PA is designed for the BLM to "integrate its historic preservation planning and management decisions with other policy and program requirements to the maximum feasible extent in the public interest". The PA meets the Section 106 requirements of the NHPA to "take into account the effects of the agency's undertaking on properties included in or eligible for the National Register of Historic Places"(NRHP) as cited in 36 CFR 800.1(a).

- BLM will obtain California Department of Fish and Game permits and Clean Water Act Section 404 permits from the U.S. Army Corps of Engineers, for stream alteration and BMP watershed management practices as necessary and appropriate.

- Open or limited routes may be closed temporarily if necessary according to soil loss assessment, resource impacts, or required maintenance. Emergency limitations or closures are not OHV designations, but remain in effect until the adverse effects are eliminated, measures are in place to prevent their recurrence, or revised OHV designations are adopted (43 CFR 8341.2).

- As identified in the 1995 Final EIS, there are two types of seasonal closures employed on the CCMA, wet season and dry season. In both cases, roads remain open for administrative use. The dry season closure is implemented to reduce air emissions and protect the public from these airborne emissions. The wet season closure reduces rutting of roads and trails, reducing sediment transfer into the various watersheds.

- To comply with the Endangered Species Act, any and all route work will avoid a "may affect" situation for the San Benito evening-primrose (*Camissonia benitensis)*. Accordingly, maintenance at some locations might be only partially implemented, or modified, or deferred until after consultation with the USFWS is completed.

- As established in the 1999 ROD, routes that traverse abandoned mine lands will be designated closed, unless effectively fenced to prohibit access to mine areas.

- BLM will continue to evaluate conformity with California State soil loss standards. BLM will maintain and update the Access database structure for route inventory, soil loss standards, maintenance, and monitoring. Updates will be incorporated as route work and monitoring are completed.

B. Existing Land Use Plan Decisions

The decisions adopted in this document implement and/or amend the following existing land use plan decisions for the Clear Creek Management Area as adopted in the 1999 ROD:

- Resource Condition Objective 3 (1999 ROD): Maintain or enhance water quality in all watersheds. Reduce erosion and sediment transport in all CCMA watersheds by reducing the number of miles and barren acreage available for vehicle use, and by implementing BMP's for all road work.

    - Management Action 9 (1999 ROD): Barren hillslopes greater than 10 acres in size will be reviewed to determine potential for erosion and sustainable OHV use. After completion of the barren area inventory and subsequent designation, a subset of all barrens will be monitored annually to determine soil loss and water quality impacts. Barren acreage available for OHV play will be adjusted accordingly.

        - This ROD (2006) reduces the miles and barren acreage available for vehicle use. In designating barren areas, barren hillslopes greater than 10 acres were reviewed through selection criteria outlined in Appendix B.

- Resource Condition Objective 4 (1999 ROD): Expand the boundaries of the San Benito Mountain Natural Area to include a contiguous cross-section of the unique serpentine and adjacent ecotones found only within this area, using easily identifiable geographical landmarks as boundaries wherever possible.

- Management Action 13 (1999 ROD): The San Benito Mountain Natural Area will be redesignated as a Research Natural Area (RNA) and may be expanded to as much as 4,082 acres. A research management plan will be developed to encourage scientific studies in and around this area. The area will be proposed for a mineral withdrawal.

    - This ROD (2006) amends this 1999 decision by designating the RNA as 4147 acres, as shown on Map 1-1.

- Resource Condition Objective 5 (1999 ROD): Manage the Clear Creek Management Area as a Limited Use area. Based upon resource management criteria, designate routes and open play areas available for OHV use as resource conditions warrant.

    - Management Action 14 (1999 ROD): The 50,000-acre CCMA will be designated a Limited Use area. Existing open routes and areas in the BLM database (comprised of United States Geological Survey topographical map information, orthophoto quads, aerial photos, and Global Positioning System field mapping information) at time of approval of the Record of Decision, will continue to be open for vehicle travel until a disposition of routes and areas has been analyzed by the environmental process. Environmental review of all known open and closed routes and areas in the database will be completed within 1 year. Criteria to be considered will include proximity to sensitive resources (stream crossings, special designations, biological and cultural resources, mine sites), private land, erosion and maintenance concerns, motorized and non-motorized recreation opportunities, and administrative and local access. On-going designations (signing, barriers, etc.) of open and closed routes and barren areas will continue and will be monitored for compliance. No route proliferation will be allowed, and violations of use designations will be subject to appropriate law enforcement action.

    - This ROD (2006) supersedes this 1999 decision by designating routes and areas available for OHV use and establishing route and barren selection criteria, as outlined in Appendices A and B.

2.6.2 Consultation and Coordination

Coordination with other agencies and consistency with other plans for the Draft EIS were accomplished through frequent communications, meetings, and cooperative efforts between the BLM interdisciplinary team and involved federal, state, and local agencies and organizations. This included interaction and meetings with the Clear Creek Technical Review Team, Regional Water Quality Control Board, Monterey Bay Unified Air Pollution Control District, California State Parks Off-Highway Motor Vehicle Recreation Division, and annual OHV grant workshops. BLM also notified elected officials in regard to CCMA route designation and SBMRNA expansion through personal briefings, phone calls, and letters describing the management situation. These included US Senators Barbara Boxer and Diane Feinstein, US Congressman Sam Farr, and San Benito County officials.

A. U.S. Fish and Wildlife Service

Formal Consultation the U.S. Fish and Wildlife Service (USFWS) was conducted on the 1995 amendment to the Hollister RMP for Clear Creek with a Biological Opinion (BO) issued in 1997. Subsequent coordination with the USFWS has been ongoing throughout the planning process with frequent communications (phone, email, submission of reports), meetings, and onsite visits to the CCMA. On January 12, 2005 an initial Request for Initiation of Formal Section 7 Consultation on the Draft Resource Management Plan Amendment and Draft Environmental Impact Statement for the Clear Creek Management Area was sent to the USFWS. A subsequent memorandum dated April 14, 2005, transmitted the Biological Assessment and supporting documentation in relation to the Request for Initiation of Formal Section 7 Consultation. In response to BLM's request for consultation, the FWS issued a BO on September 2, 2005, which found that BLM's Proposed Action was not likely to jeopardize the continued existence of the San Benito evening-primrose.

B. U.S. Environmental Protection Agency

Coordination with the U.S. Environmental Protection Agency (EPA) by phone, through various meetings, and coordination of studies and site management activities at the CCMA has occurred throughout the planning process. Topics discussed include comments on the Draft EIS, air and water quality, human health risks associated with exposure to naturally occurring asbestos and general project updates.

C. State Consistency Requirements

In accordance with the Federal Land Policy and Management Act (FLPMA) and BLM planning regulations (43 CFR 1610.3-2), BLM RMPs must be consistent with officially approved or adopted resource related plans of State and local governments and must identify any known inconsistencies with state or local plans, policies, or programs. BLM also must provide the Governor with up to 60 days in which to identify any inconsistencies and submit recommendations. On June 8, 2005, BLM submitted the Proposed RMP/Final EIS to the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit for review.

The Governor of the State of California in his letter dated November 28, 2005 stated, "Pursuant to 43 CFR 1603-2, and after consulting with affected State and Local agencies, the Governor's Office of Planning and Research (OPR) has determined that the BLM's Proposed Amendments to the Clear Creek Management Plan are not inconsistent with any state or local plans, policies, or programs."

D. Native American Interests

Consultation with Native American interests began in September 2004, with letters and copies of the DEIS sent to the Federally-recognized Santa Rosa Rancheria Tachi Yokuts Tribe and to the non-Federally recognized Indian Canyon Ohlone/Costanoan group. Additional face-to-face consultation occurred with the Tachi Yokuts in November 2004; no specific concerns were raised in the course of consultation with this tribe. In December 2004, individuals from the

Ohlone Bear Clan (non-Federally recognized) approached the Hollister Field Office seeking to conduct Native American/California Indian ceremonies in the CCMA. At that time face-to-face meetings were initiated to discuss their concerns, a copy of the DEIS was provided to them, and coordination began. Specific issues focused around the ability to maintain access to areas in the CCMA for traditional Native uses. In September 2005, these tribal entities received copies of the FEIS. No comments were received specific to the plan. Currently the Hollister Field Office continues to consult and coordinate with Native American tribes and individuals for traditional use needs in the CCMA as they arise.

2.7 POLICY

All BLM decisions and approvals will be consistent with applicable statutes, regulations, and policies, including but not limited to the following:

- Federal Endangered Species Act
- National Environmental Policy Act
- Federal Land Policy and Management Act
- National Historic Preservation Act
- Clean Water Act
- Clean Air Act
- Federal Executive Orders and the Code of Federal Regulations

The proposed action is in conformance with the following two Executive Orders:

1. Executive Order 11644 (*Use of Off-Road Vehicles on the Public Lands)*, February 9, 1972 (87 F.R. 2877), to establish policies and provide for procedures to control and direct the use of Off-Highway Vehicles on Federal lands so as to (1) protect the resources of those lands, (2) promote the safety of all users of those lands, and (3) minimize conflicts among the various uses of those lands.

2. Executive Order 11989 (*Off-Road Vehicles on Public Lands)*, May 24, 1977 (42 F.R. 26959), amending the previous order. This amendment strengthened protection of the lands by authorizing agency heads to (1) close areas or trails to OHVs causing considerable adverse effects and (2) designate lands as closed to OHVs unless the lands or trails are specifically designated as open to them.

This project also complies with 43 CFR 8342.1, which establishes criteria to consider when the BLM makes route and area designations. The BLM bases designations on the protection of resources of the public lands, the promotion of safety of the users of the public lands, and strives to minimize conflicts among the various users of the public lands. Designations must be in accordance with the following criteria:

- Areas and trails shall be located to minimize the damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.

- Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats, and for the protection of vernal pools, riparian areas, and known and newly discovered occurrences of sensitive and rare plants and communities and related moderate to high potential habitat. Special attention would be given to protect endangered or threatened species and their habitats.

- Areas and trails shall be located to minimize conflict between OHV use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in the area, taking into account noise and other factors.

- Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails would be located in natural areas only if the authorized officer determines that off road vehicle use in such locations would not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

2.8 OVERALL VISION

The overall vision of the decision adopted here is to establish a clear and understandable route network, which allows users to clearly understand the appropriate type of use for each area. Specific goals are as follows:

- to provide a wide range of recreation opportunities and experiences;
- to manage recreation use to minimize user impacts to the environment;
- to emphasize the use of public outreach to increase public awareness and sensitivity to resources; and
- to adaptively manage changing visitor use patterns.

2.9 DEFINITIONS

Off-Highway Vehicle (OHV). Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposed; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies.

Open Route. Access on route by motorized vehicles is allowed. Specific uses with potential for resource damage or significant conflict with other use may require specific authorization.

Closed Route. Access on route by motorized vehicles is prohibited except for: (1) fire, military, emergency or law enforcement vehicles when used for emergency purposes; (2) combat or combat support vehicles when used for national defense purposes: (3) vehicles whose use is expressly authorized by the authorized officer under a permit, lease, or contract; and (4) vehicles used for official purposes by employees, agents, or designated representatives of the federal government or one of its contractors. Use must be consistent with the multiple use guidelines for that area.

Administrative Use – Use by an employee, agent, or designated representative of the Federal Government or one of its contractors, in the course of his employment, agency, or representation. Use of routes approved through a permitting process for specific activities (e.g., special recreation use permittees, grazing and mineral lessees, or rights-of-way holders).

Limited Route. Access on a route by motor vehicles may be limited to use in one or more of the following ways and limited with respect to: type of vehicle; number of vehicles allowed; time or season of vehicle use, or; permitted or licensed vehicle use only

Open Area. An area where motorized vehicle use is allowed and is not constrained to a specific route of travel.

Limited Area. An area restricted at certain times, in certain areas, and/or to certain vehicular use. Types of restrictions include: types and numbers of vehicles, time or season of vehicle use, and use on designated roads and trail.

Closed Area. An area where OHV use is prohibited, unless approved by the authorized officer.

Casual Use. Casual use of public lands in the context of OHV access is defined as the use of routes not requiring a specific authorization.

3.0 CLEAR CREEK MANAGEMENT AREA RESOURCE MANAGEMENT PLAN AMENDMENT AND ROUTE DESIGNATIONS

3.1 INTRODUCTION

The decisions described below designate all specific routes (roads, ways, trails) within the Clear Creek Management Area (CCMA) as open, limited, or closed to OHV use, and designate barren areas as open or closed to OHV use. Within the CCMA, OHV use is limited to trails designated as open or limited, except in barren areas designated as open. All routes not designated as open or limited are closed. OHV recreation use will be allowed only on trails and areas that are signed for use. A majority of closed routes will be identified and prioritized for restoration over a period of years. Restoration refers to reclaiming of closed routes to revert to a natural state over time and disappear into the landscape. Route restoration will be evaluated through separate environmental analyses. Acquired lands within the CCMA are included in this designation project.

The decisions below also identify the expanded boundaries and interim management of the San Benito Mountain Research Natural Area (SBMNRA).

Table 3-1. Key Characteristics of the Action

Open	201		478
Limited	15		
County	26		
Total Miles – Recreation Use*	**242**		
Paved	3		4147
Improved	26		
4-wheel Drive	25		
Jeep	53		
ATV	35		
Single Track	100		
Total Miles	**242**		

* Mileage includes routes currently available for public use, but not under BLM jurisdiction.

3.2 OFF-HIGHWAY VEHICLE (OHV) DESIGNATIONS

- DECISION: The Clear Creek Management Area, except as defined elsewhere in this document, is designated as a limited use area, where OHV use is limited to designated trails as described below.

3.2.1 Routes of Travel Designations

- DECISION: Designate the routes of travel network for casual use as shown in Appendix A and Map 1-1.
    - All routes not designated open or limited, are designated as closed. Designated closed routes will be removed from the travel network. Casual OHV travel will only be allowed on designated "Open" and "Limited" routes which are signed for use. All designated routes have been screened through the criteria in Appendix A and include a designation record and rationale. Within the CCMA Limited Use Area, all casual use will be restricted to designated open or limited routes. A complete list of all routes in the BLM route inventory database and the specific designation for each route is presented in Appendix A of this Record of Decision. Designated Closed routes will be selected and prioritized for restoration and reclamation, with subsequent environmental analysis completed. Certain Closed routes are identified in Appendix A of this Record of Decision for "Administrative Use". These routes are not available for public OHV recreation use, but they differ from other Closed routes because they will be regularly maintained and not considered for restoration.
    - Portions of routes crossing non-BLM lands will not be designated. Landowners/managers will be responsible for preventing public access to or across their lands. BLM may negotiate reciprocal rights-of-way as appropriate to maintain the integrity of the route network. Landowners/managers within the CCMA were contacted during the public comment period. Routes crossing non-BLM lands may be depicted on route maps as a part of the existing situation, but BLM has no jurisdiction for decisions related to the status of those routes.

- DECISION: During implementation of the designated route network, unsigned designated open routes will remain closed until signed.

- DECISION: T 151 will be re-routed in T.18 S., R12 E., sec.'s 8 and 22 that cross private lands.

- DEICIONS: Additional routes not considered in this EIS, may be added to the designated route network through inventory, soil loss assessment, and screening using the criteria in Appendix A. Routes may be added to the designated route network until the total number of routes (including non-BLM administered) available for casual recreation use totals 270 miles.

- DECISION: Minor modifications of the route network during plan implementation will be allowed and will include the following:
  - Minor realignments of a route necessary to avoid sensitive natural or cultural resources,
  - Minor realignments of a route necessary to reduce impact on sensitive species and habitats,
  - Minor realignments of a route that will substantially increase the quality of the recreational experience, but that will not affect sensitive species or habitat, or other sensitive resource values,
  - Minor realignments of a route to avoid mines and private lands.

"Minor realignment" is defined as a change of no more than ¼ linear mile of an individual designated route. This could include the opening of an existing previously closed route that serves the same access need as the route that is to be realigned. It could also involve re-routes of a segment of a route, to avoid the above mentioned resource conflicts. All new construction will undergo environmental review and NEPA compliance. All realignments and re-routes will be documented in the official record and kept on file at the BLM Field Office.

- DECISION: A difficulty rating system will be implemented for all designated open and limited routes. Ratings will be identified on route markers within the Clear Creek Watershed.

- DECISION: California State Soils Loss Standards and Monitoring will be implemented on all designated open routes and surveys completed on an annual basis. Routes may be temporarily closed until corrective maintenance repairs can be completed if necessary.

- DECISION: All lands recently acquired within the CCMA boundaries by BLM will be designated as limited use areas and incorporated into the designated route system. See Map 1-1 for the location of these newly acquired lands within the CCMA.

3.2.2 Designation of Barrens

- DECISION: Designate barrens as open or closed areas according to Appendix B and as depicted on Map 1-1.

3.2.3 Route and Barren Designation Criteria

- DECISION: Adopt the route and barren designation criteria, as described in Appendix A and Appendix B. See Section 3.5 for the methodology for applying the criteria.

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3.3 SAN BENITO MOUNTAIN RESEARCH NATURAL AREA (RNA) EXPANSION

- DECISION: Expand the designation boundary of the San Benito Mountain RNA to 4147 acres, as shown on the Map 1-1.

  - Research Natural Areas (RNAs) are areas that contain important ecological and scientific values, and are managed for minimum human disturbance. Because natural processes are allowed to dominate, an RNA is an excellent control site for similar plant communities that are being actively managed. Non-manipulative research and baseline data gathering are important components of RNA. An RNA is designated because the land has one or more of the following characteristics:
    1. a typical representation of a common plant or animal association;
    2. an unusual plant or animal association;
    3. a threatened or endangered plant or animal species;
    4. a typical representation of common geologic, soil, or water features; or
    5. outstanding or unusual geologic, soil, or water features.

  - The boundary adds acreage to the current SBMRNA boundary on the north and south sides of the Sawmill Creek watershed to protect sensitive resource values and riparian habitat. Additional acreage is also added on the northeast portion of the RNA to encompass a greater portion of the San Carlos Creek watershed for the protection of riparian areas, sensitive species, serpentine barrens, forest communities, and inclusion of transition zones. Upper Clear Creek Canyon is also included in the expanded RNA. Including these areas will also contribute to controlling OHV trespass into the RNA and closed mine areas. The expansion will incorporate areas containing unique vegetation communities and habitats. The boundaries are delineated using identifiable landmarks, such as routes, to the extent possible.

  - This boundary incorporates areas containing unique vegetation communities, habitats, and species into the Research Natural Area, benefiting their long-term protection. Expansion of the boundaries of the SBMRNA is based on:
    - Protection of the San Benito evening primrose (*Camissonia benitensis)*, sensitive species, potential, and occupied habitat,
    - Inclusion of the unique vegetation communities (forest, T&E, and sensitive species),
    - Inclusion of watersheds/sub-watersheds to the extent possible, for protection of riparian habitat,
    - Inclusion of the transition zone between the serpentine and non-serpentine soils,
    - Delineation using identifiable geographical landmarks (routes, trails, ridges, etc.),
    - Reducing the impacts of OHV use and other conflicting uses,

- Authorizing use only on those trails and areas, as determined by the authorizing officer, which will not adversely affect the natural, scenic, esthetic or other values for which established.

- DECISION: Adopt the Interim RNA Management Plan, as described in Appendix E.
  - This plan outlines the prescriptions that will permit natural processes to continue without interference. It will also determine what characteristics of the habitat are important and what management response will be to changes in these characteristics, along with monitoring requirements, and specifying resource use limitations. It is important to avoid impacting these areas in ways which could adversely affect the natural, scenic, or ecological values for which established.

- DECISION: Complete an activity level SBMRNA Management Plan. A monitoring plan will be a component of this plan, and documents key community attributes, produces standardized monitoring protocols, and identifies research needs which will allow more effective management of the RNA.

- DECISION: Uses inconsistent with preservation of the values for which the RNA was designated will not be allowed. These include camping, building of a wood-fueled campfire, motorized and non-motorized vehicle use off designated routes, woodcutting, hunting/trapping, and plant gathering. The above restrictions apply to recreational use only and may be allowable for research projects. Grazing, prescribed fire, timber harvest, and pest suppression (native and non-native) will not be allowed unless these actions can be shown to preserve the desired characteristics of the RNA, and only occur after environmental documentation.

- DECISION: Develop a restoration/rehabilitation plan for the SBMRNA to rehabilitate disturbed areas (i.e. OHV play areas, roads, trails, and mine sites) within the expanded boundary.

- DECISION: Lands adjacent to the SBMRNA should not have intensive use, unless an adequate buffer can be provided.

- DECISION: Fences and barriers will be constructed to preclude OHV access into the SBMRNA.

3.4 MITIGATION MEASURES

A. Areawide Mitigation Measures

The following mitigation measures represent all practicable means to avoid or minimize environmental harm from the approved decisions.

DECISION: BLM will implement the following mitigation measures to reduce environmental impacts.

- **Best Management Practices**: BLM will monitor water quality, soil erosion, and sediment conditions within the watersheds of the CCMA. The BLM will implement Best Management Practices (BMPs) to reduce impacts to watershed resources, and will continue to evaluate and update these measures as needed to minimize impacts to water quality, control erosion and sediment production, and protect sensitive resources. The BMPs will incorporate the soil loss standards for OHV areas, developed jointly by BLM and California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division. These measures are contained in Appendix D. Best Management Practices (BMP) related to watershed improvement and road maintenance projects will be implemented to reduce erosion and off-site sedimentation transport (see Appendix D). All maintenance work on designated routes will conform to the Route Management Objectives outlined in Appendix C, and comply with Monterey Bay Unified Air Pollution Control District and San Joaquin Valley Air Pollution Control District air regulations for airborne asbestos. BLM will continue to implement visitor controls to ensure visitor and worker safety during all phases of route work.

- **Route Maintenance**: All route maintenance activities will be addressed in an annual corrective route maintenance plan and will undergo environmental review by appropriate staff. Route maintenance activities will be conducted in a manner that avoids impacts to sensitive resources, species, and habitats.
- Route maintenance and improvement work will be completed consistent with the following guidance:

  — BLM manuals 9113, H-9113-2, 9114,
  — Federal Highway Administration's (FHWA) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects Standards, US Forest Service Trails Handbook 2309.18, sections 2.32 a, b, and c, and
  — 1995 Pacific Watershed Associates (PWA) report will be used for standards, guidelines, and recommendations.
  — Resource awareness training will be completed by all operators to ensure compliance with adopted route maintenance guidelines, with relevant inventory data incorporated into the training as appropriate. The BLM will continue to implement Best Management Practices to reduce impacts to watershed resources and control non-point source pollution. California OHV State soil loss standards will be used in monitoring and assessment of routes and areas, and will serve as the basis in developing corrective route management plans.

- **Public Notification:** BLM will notify the public with media releases and postings to clubs, landowners, claimants and other permittees, regarding scheduled route work, and regarding any temporary route closures or route diversions. Efforts will be made to ensure the public will have alternative routes wherever possible, but there could be days when route segments within the CCMA might be closed to ensure the safety of the public. Safety information will be included in notifications.

- **Soil Compaction and Moisture:** Work on open routes will be done when soil moisture is sufficient to adequately compact the tread and prevent visible airborne asbestos emissions. If work is to be done under dry season conditions, then water will be added in sufficient quantities to maintain adequate soil moisture. Upon mechanical disturbance by the treads of track driven equipment, the soil will be re-compacted in six-inch or less lifts.

- **Stream Crossing Requirements:** To minimize sediment deposition into flowing streams, work will be performed during the low flow stages whenever feasible, or if, possible when the channel does not contain flowing water. If warranted, a temporary hay-bale check dam will be placed directly downstream to trap sediment and to reduce turbidity. Regardless, all work in perennial creeks will be performed with proper permits and coordination with the California Department of Fish and Game Stream Alteration permit guidelines, including Clean Water Act Section 404 permits from the U.S. Army Corps of Engineers.

- **Sensitive Resource Screening:** Work on routes will not take place until a screen for sensitive resources (special status species, animals, cultural resources, mine sites, riparian corridors, stream crossing and vernal pools, etc.) by appropriate staff is completed. Screening will involve comparing maps and other data of known sensitive resources against maps of the proposed route maintenance projects. A sensitive resource and/or area intersecting a project within a 200-meter buffer will be identified and taken to the next level of analysis. Whenever feasible, project screening will take place at the end of the spring rainy season, for projects proposed for the following autumn. Additional resources review will be required for route maintenance projects involving activities outside of the historic zone of disturbance for a particular route (or a revised Area of Potential Effect).. The historic zone of disturbance is defined as that area within and adjacent to the route that has historically received route maintenance, and follows the guidelines identified in the Route Maintenance Objectives (Appendix A). Identified areas will be field-checked, as appropriate, to identify whether a proposed maintenance treatment can proceed or whether the treatment should be modified or deferred. If necessary, the field-check will identify what additional measures will need to be implemented to avoid impacting sensitive resources. The Field Manager will approve projects or modifications to projects prior to implementation. Appropriate steps will be taken to comply with NEPA for all route maintenance activities.

- **Flora/Fauna:** There will be no known adverse impacts from route maintenance to federal or California listed species and sensitive species (Appendix F, 2005 FEIS), or to habitat with high or medium potential to support the sensitive species that are known to occur within the CCMA. Known occurrences of the species listed in Appendix F (2005 FEIS), or current BLM Sensitive Species listings, will be avoided during route maintenance. Based upon field review, proposed route maintenance for a particular site could be modified/downgraded (example: if a culvert were proposed, the repair, clearing, or replacement of which will impact a known occurrence or habitat currently capable of supporting *Camissonia benitensis*, then a possible downgrade could be to install a rolling dip or other measure within the existing tread). Site-specific project plans will be developed for those locations where the potential exists to impact sensitive resources, and

the stipulations required to minimize impacts will be documented as part of the project plan.

- **Cultural Resources (including Areas of Native American Cultural Significance):** All maintenance and proposed projects will avoid adversely impacting known cultural resources sites, in compliance with the California BLM-SHPO Programmatic Agreement of 1998.

B. Resource Specific Mitigation Measures

DECISION: BLM will implement the following mitigation measures are adopted to reduce environmental impacts to resources within the CCMA.

AIR QUALITY

- Select and prioritize designated Closed routes for restoration and reclamation, to allow them return to a natural state, reducing vehicle and wind generated emissions.

- Comply with all provisions of the Monterey Bay Unified Air Pollution Control District's ATCM regulation for control of airborne asbestos emissions relating to construction, road maintenance, and grading activities

WATERSHED RESOURCES

- Close all remaining mine areas to OHV use. Access will be restricted through route closure or construction of fencing and physical barriers.

- Continue to enforce seasonal access closures and restrictions to limit vehicle use during periods of extreme wet and muddy conditions.

- Select and prioritize designated Closed routes for restoration and reclamation.

- Implement California State Soils Loss Standards and Monitoring on all designated open routes and surveys completed on an annual basis. Routes may be temporarily closed until corrective maintenance repairs can be completed if necessary.

- Continue to monitor water quality, soil erosion, and sediment conditions within the watersheds of the CCMA. The BLM will implement Best Management Practices (BMP) to reduce impacts to watershed resources, and will continue to evaluate and update these measures as needed to minimize impacts to water quality, control erosion and sediment production. These measures include drainage improvements, construction of rolling dips, water bars, rock armored/hardened stream crossings, hardened sills, and half-pipe bridges, and are contained in Appendix D. These site treatments are incorporated into BLM's annual corrective route maintenance plan.

- Implement measures to minimize off-site sediment transport from barren areas through repair of erosion scars, construction of drainage improvements, sediment control and trapping treatments, and re-vegetation of vegetative buffers. Designated Closed barrens will be selected and prioritized for restoration and reclamation employing these same techniques.

- Construct fences and barriers to preclude access to riparian areas and closed areas to prevent vehicle disturbance and off-site transport of metals and sediments.

SOIL LOSS AND EROSION

- Continue to enforce seasonal access closures and restrictions to limit vehicle use during periods of extreme wet and muddy conditions.

- Select and prioritize designated Closed routes for restoration and reclamation.

- Implement California State Soils Loss Standards and Monitoring on all designated open routes and surveys completed on an annual basis. Routes may be temporarily closed until corrective maintenance repairs can be completed if necessary.

- Continue to monitor water quality, soil erosion, and sediment conditions within the watersheds of the CCMA. The BLM will implement Best Management Practices (BMP) to reduce impacts to watershed resources, and will continue to evaluate and update these measures as needed to minimize impacts to water quality, control erosion and sediment production. These measures include drainage improvements, construction of rolling dips, water bars, rock armored/hardened stream crossings, hardened sills, and half-pipe bridges, and are contained in Appendix D. These site treatments are incorporated into BLM's annual corrective route maintenance plan.

- Implement measures to minimize off-site sediment transport from barren areas through repair of erosion scars, construction of drainage improvements, sediment control and trapping treatments, and re-vegetation of vegetative buffers. Designated Closed barrens will be selected and prioritized for restoration and reclamation employing these same techniques.

- Construct fences and barriers to preclude access to riparian areas and closed areas to prevent vehicle disturbance and off-site transport of sediments.

HUMAN HEALTH

- Limit or restrict use of the designated route network to protect human health, when warranted and as new information becomes available. BLM will continue working with EPA, consulting at least annually, to evaluate new data and ensure visitor safety.

- Install a public vehicle wash facility.

- Continue to enforce seasonal access closures and restrictions to limit vehicle use during periods of extreme wet and muddy conditions and during periods of extreme dusty conditions.

- Augment existing public asbestos hazard information program through improved signing, handouts, advisories, monitoring, public contact, and education programs. Any new information on risks to human health will be incorporated into the educational materials.

- Select and prioritize designated Closed routes for restoration and reclamation, to allow them return to a natural state, reducing vehicle and wind generated emissions.

- Comply with all provisions of the Monterey Bay Unified Air Pollution Control District's ATCM regulation for control of airborne asbestos emissions relating to construction, road maintenance, and grading activities.

- Close all remaining mine areas to OHV use.

BIOLOGICAL RESOURCES

SPECIAL STATUS PLANT SPECIES

- Manage portions of Clear Creek, Sawmill Creek, San Benito River, and San Carlos Creek for introducing the San Benito evening-primrose into suitable habitat.

- Monitor all populations of the San Benito evening-primrose and their protective measures for compliance relating to OHV trespass. Adaptive management will determine additional management actions to protect this species.

- Select and prioritize designated Closed routes for restoration and reclamation to minimize impacts to vegetation communities.

- Implement California State Soils Loss Standards and Monitoring on all designated open routes and surveys completed on an annual basis. Routes may be temporarily closed until corrective maintenance repairs can be completed if necessary.

- Continue to monitor water quality, soil erosion, and sediment conditions within the watersheds of the CCMA. The BLM will implement Best Management Practices (BMP) to reduce impacts to watershed resources, and will continue to evaluate and update these measures as needed to minimize impacts to water quality, control erosion and sediment production. These measures include drainage improvements, construction of rolling dips, water bars, rock armored/hardened stream crossings, hardened sills, and half-pipe bridges, and are contained in Appendix D. These site treatments are incorporated into BLM's annual corrective route maintenance plan.

- Implement measures to minimize off-site sediment transport from barren areas through repair of erosion scars, construction of drainage improvements, sediment control and trapping treatments, and re-vegetation of vegetative buffers. Designated Closed barrens will be selected and prioritized for restoration and reclamation employing these same techniques.

- Construct fences and barriers to preclude access to riparian areas and closed areas to prevent vehicle disturbance and off-site transport of sediments. Specifically fence along R002 to control OHV access into the Larius watershed and fence along T113 to control access to closed barrens in a high erosion watershed on the south side of Clear Creek. Protective measures will be implemented for all remaining open BLM routes bisecting San Benito evening-primrose habitat to include corridor fencing as necessary.

- Monitor all unprotected populations of special status species for possible adverse impacts from vehicles and other uses and implement protective actions as warranted.

- Inventory suitable habitat for all sensitive plant species

- Monitor any new populations of special status species documented during future inventories for adverse impacts and implement protective actions as warranted.

- Implement long-term studies to determine how disturbances such as human use, storms, and erosion, impact the viability of special status species. Employ adaptive management in the CCMA to help improve conditions for these species.

SPECIAL STATUS ANIMAL SPECIES

- Develop monitoring and inventory studies to determine status of animal species with the potential to occur within the boundaries of the CCMA. Modify management actions and strategies as new data warrants.

- Continue current monitoring program, and modify management actions and strategies as new data warrants.

- Select and prioritize designated Closed routes for restoration and reclamation to minimize impacts to special status species and their habitats.

INVASIVE WEEDS

- Implement invasive weed management program.

- Install public vehicle wash facility.

RECREATION RESOURCES

MOTORIZED VEHICLE NETWORK

- Implement a difficulty rating system for all designated open and limited routes. Ratings will be identified on route markers.

- Install signs identifying the CCMA as a Limited Use Area with all vehicle travel restricted to designated open routes. Clearly mark and identify the designated route network.

- Produce and distribute a new user map to allow recreation users to understand the appropriate type of use and clearly identify were OHV use is permitted.

- Develop a recreation user education and awareness program to inform the public of the concepts of designated use, encourage safe and environmentally responsible behavior, and an understanding of multiple-use management.

- Increase Law Enforcement patrols and use of Law Enforcement response teams to monitor and enforce compliance with designations.

BARRENS

- Clearly mark and identify the barren areas designated as open.

- Produce and distribute a new user map to allow recreation users to understand the appropriate type of use and clearly identify were OHV use is permitted.

- Develop a recreation user education and awareness program to inform the public of the concepts of designated use, encourage safe and environmentally responsible behavior, and an understanding of multiple-use management.

- Increase Law Enforcement patrols and use of Law Enforcement response teams to monitor and enforce compliance with designations.

- Construct fence to control unauthorized use of closed barrens, including adjacent to R002 and T113.

C. Mitigation Specific to San Benito Mountain Research Natural Area (SBMRNA)

- Manage portions of Clear Creek, Sawmill Creek and San Carlos Creek for introducing the San Benito evening-primrose into suitable habitat.

- Conduct necessary maintenance of routes through the area to enhance overall wilderness quality by minimizing route-related impacts to the sensitive resources inside the

SBMRNA/WSA. Areas along the roadways near the WSA will be rehabilitated using the most effective method available.

- Construct fence and barriers to protect boundaries and preclude unauthorized motorized access and trespass into the RNA. Complete corridor fencing of Spanish Lake Road (R011) through the RNA.

3.5 ROUTE AND BARREN DESIGNATION METHODOLOGY

A. Routes

The BLM is adopting extensive criteria for evaluating routes and areas. These designation criteria address a variety of management issues and concerns, including compliance with statutory guidelines. There are many factors that contribute to designating routes and areas. The final designation of the route and barren network provides for the needs of the public land user, while protecting sensitive species and habitat, protecting natural and cultural resources, and protecting the unique ecosystem within the SBMRNA. Designation decisions are based on a variety of data, including previous studies, field inventory data, biological, environmental, cultural, and natural and recreation resources, land use, and land ownership. This process is standardized, repeatable, and can be logically followed; it assesses each route and area on its own merits and issues, and documents that assessment; systematically assesses both individually and cumulatively the effects of each route on biological, cultural, and natural resources; and establishes a clear link between the designation decision and the rationale for that decision. The process considers the level of impact of each route and barren; the number, density, and intensity of use of each route and area and its relationship to habitat fragmentation and cumulative effects; and ways to minimize the number and intensity of conflicting land uses.

A standardized and stepwise process is identified, whereby routes and barrens are evaluated relative to a list of criteria (see Appendix A) such as, resource sensitivity, soil loss, manageability, intended route use, and recreation opportunity. From this evaluation of criteria a designation on use classification, open, limited, or closed, is made.

A Data Element Dictionary is established for each of the resource screening criteria, representing the data on which decisions about authorized recreation vehicle use of routes and barren areas is based. The data element dictionary describes the responses for each criterion. As routes and barrens are screened through the criteria tables, data element codes are assigned based on staff evaluation. The last digit of the element code also represents a scoring feature, with totals greater than nine for all criteria deemed least suitable for open designation. The designation record and evaluation form help document final designation of routes and barrens and include necessary mitigation measures or restoration as needed. All data for the designations is managed in a relational database. A map of the designations is included in the Appendix on Map 1-1. Implementation of the designations is outlined in Appendix C, Implementation Plan.

The route designation criteria are combined in four tiers, roughly corresponding to the criteria's likelihood of requiring route closure. Where possible, mitigation measures are discussed that could be used to reduce the expected motorized OHV impacts under each criterion. Mitigation,

as used in the designation criteria process, refers to management actions that BLM could undertake to alleviate the effects of OHV use with respect to the designation criteria. The route designation criteria are included in Appendix A of this Record of Decision.

B. Barrens

These designation criteria address a variety of management issues and concerns, including compliance with statutory guidelines, including resource sensitivity, soil loss, manageability, and recreation opportunity. From this evaluation of criteria a designation on use classification, open, limited, or closed, is made. The Geomorphic Field Evaluation of Serpentinite Soil Barrens, CCMA (Dynamac Corp., 1998), contains data considered in the designation process. Key information from this study used in this designation process include; stream orders present, hydrographic position, vegetation cover, vegetation boundary/buffer, amount of gullying, slope, armoring present, sediment trapping features, and contribution of sediment to sub-watersheds with high erosion rates. For the purposes of this document "barrens" are defined as a general term applied to openings in serpentine hillslopes larger than 10 acres which support almost no herbaceous or woody vegetation. Criteria adopted for barren designation are included in Appendix B.

3.6 MONITORING

DECISION: The current Compliance Monitoring Plan will be revised; until it is revised, the current Compliance Monitoring Plan, as outlined in the 1997 Biological Opinion will be followed.

Revision of the Compliance Monitoring Plan will improve the BLM's ability to manage the CCMA in a manner that promotes the long-term conservation of *Camissonia benitensis* and makes efficient use of staffing and funding.

The BLM and the FWS have been working on an updated draft of the guidance used in previous years, tentatively entitled Adaptive Management Plan and Off-Highway Vehicle Compliance Monitoring Plan for the Clear Creek Management Area, and will continue to refine this document so it provides clear guidance regarding management activities in the CCMA. The approach used to develop the revision is to: 1) build upon existing documents and strategies that have established protocol for compliance monitoring; and 2) facilitate an adaptive management approach by a) improving transfer of information to managers, and b) providing managers with a set of recommendations that can be used to make efficient and timely decisions. The BLM proposes that the FWS continue to assist in development and review of monitoring programs for *Camissonia benitensis* at the CCMA.

The monitoring plan will likely include commitments to: 1) coordinate with FWS on implementation of adaptive management actions; 2) conduct annual area-wide monitoring of *Camissonia benitensis* habitat and population estimates; 3) analyze correlations between OHV use patterns and population levels; and 4) establish thresholds that will trigger adaptive management.

Specifically, the BLM and the FWS anticipate that the final working guidance being developed will include the following measures addressing conservation of *Camissonia benitensis*:

- **Population and habitat monitoring protocols**: Annual estimates of the distribution and abundance of *Camissonia benitensis*, and the spatial distribution of documented and potential habitat within the CCMA. Methods to provide these estimates are likely to be refined in the future.

- **OHV and other recreational use compliance monitoring**: Efforts to monitor compliance with rules and regulations governing use of the CCMA. The intensity and frequency of this effort will be commensurate with historical compliance data and other factors that affect risk to *Camissonia benitensis* and its habitats. Methods used to determine compliance levels are likely to continue to be refined in the future.

- **Interagency coordination**: The BLM and the FWS will continue to meet annually, or more often as needed, to:

  1. Review all plant and habitat abundance and distribution data and any relevant circumstances;

  2. Review all OHV and other recreational use compliance monitoring data;

  3. Evaluate this information and determine whether current accepted risk thresholds have been exceeded;

  4. Develop any needed recommendations for managers;

  5. Generally evaluate CCMA Plan implementation, management strategy effectiveness, monitoring programs, and listed species risk thresholds;

  6. Determine whether either the BLM and/or the FWS believe there is any reason to reinitiate consultation under section 7 of the ESA.

- **Erosion process studies and control strategies**: The provision to develop additional strategies to study, more fully understand, and manage soil erosion as it affects *Camissonia benitensis* habitats.

The BLM and FWS expect that it will take some time to finish and approve the current draft of this monitoring and implementation guidance. Additionally, following completion of the plan, refinement of monitoring protocols and management responses to new information will continue into the future. Should any current circumstances arise where more fundamental reconsiderations are needed, reinitiation of consultation under section 7 of the ESA may occur.

DECISION: During the interim period prior to the development and approval of final monitoring and adaptive management guidance and protocols by the BLM and the FWS, annual evaluations and any needed management responses will be implemented, consistent with existing authorities. If, during these annual evaluations, the BLM and FWS cannot agree whether accepted risk thresholds have been exceeded, or agree on the appropriate management response to substantial compliance problems and associated risks to listed species, the BLM will ensure the protection of the species and associated habitats under its FLPMA authorities by closing relevant portions of the management areas in question.

3.7 IMPLEMENTATION

- DECISION: All designated open and limited routes and areas will be signed. Closed routes and areas will be prioritized for restoration.
    - Developing an effective signing protocol which provides for the greatest public compliance and allows the user to clearly understand the designated route network, will be a key component in successful implementation of the route and area designations. A variety of techniques will be used on closed routes to ensure compliance with the designation, including vertical mulching, obliteration, natural and man-made barriers, as well as law enforcement, education, and signing of some routes where prevalent resource concerns exist or intensive historical use patterns are present. Some routes or portions of routes will be left to natural reclamation processes. A detailed description and schedule of management actions related to implementation of this designation project is in Appendix C.

- DECISION: The BLM will evaluate alternative funding sources, including implementation of a Recreation Fee.
    - A fee program may be used to supplement existing funding. Implementation of a recreation fee program will identify a program that best fulfills the needs of the CCMA, its visitors, and the BLM as the agency responsible for management, to provide a quality recreation experience on a sustained basis.

3.8 ADAPTIVE MANAGEMENT

Adaptive Management Implementation Strategy

This section outlines the adaptive management implementation strategy for the Clear Creek Management Area. Adaptive management can be defined as a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and, if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes.

Adaptive management is based upon a growing realization of the limits of our scientific knowledge regarding ecosystems and the capacity to apply that knowledge to land management decisions in ways that lead to predictable outcomes. Adaptive management recognizes that unknowns and uncertainties exist in the course of achieving any resource management goals. In

such a setting, management actions (e.g., policies, prescriptions) become hypotheses; the results constitute outcomes, and by examining actual results in relation to those anticipated in our hypotheses, we enhance our capacity to learn and adapt.

Objectives

DECISION: The management objectives, for the CCMA, are summarized as follows:

- For Air, Land and Water Resources Management, the planning area will be managed to maintain or enhance air, land, and water resources while protecting human health

- For Biological Resource Management, the planning area will be managed to protect biological resources, Special Status Species, and in particular, as a priority, the protection of existing populations of the San Benito evening-primrose and attempting to expand its range to areas that have moderate and high potential for the species. The BLM is committed to managing the CCMA to ensure that sensitive species and communities maintain or enhance their condition.

- For Recreation Management, the BLM's goal for the management of off-highway vehicle (OHV) recreation at the CCMA is to provide for quality recreation opportunities, while reducing impacts to sensitive resources, minimizing conflicts with other resource uses, and promoting sustainable resources.

- For Cultural Resource Management, the planning area will be managed to protect important cultural resources while allowing for educational research and appropriate interpretative uses.

- For Special Management Areas, the planning area will be managed to protect unique resources of the San Benito Mountain Research Natural Area, and Serpentine ACEC and the values for which established

- For Social, Economic, and Environmental Justice conditions, the planning area will be managed to meet changing recreational demands.

4.0 ADMINISTRATIVE REVIEW AND APPEALS

The decisions outlined in Section 1 and Section 3 of this Record of Decision (ROD) that amend the 1984 Hollister Resource Management Plan (RMP), as amended, are not appealable to the Interior Board of Land Appeals. All protests on the CCMA Proposed RMP and Final Environmental Impact Statement (EIS) have been resolved, and the decision of the BLM Director is the final decision of the Department of the Interior (43 CFR 1610.5-2).

The decisions outlined in Section 1 and Section 3 of this Record of Decision (ROD) that implement the Hollister RMP, as amended, are appealable to the Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior.

4.1 APPEALS

Pursuant to Departmental policy, "A person may appeal a decision of the Bureau of Land Management under the procedures set forth in 43 CFR Part 4, subpart E. See, e.g., 43 CFR §§ 4.411."

The relevant regulation states, at 43 CFR 4.411:

(a) A person who wishes to appeal to the Board must file in the office of the officer who made the decision (not the Board) a notice that he wishes to appeal. A person served with the decision being appealed must transmit the notice of appeal in time for it to be filed in the office where it is required to be filed within 30 days after the date of service. If a decision is published in the Federal Register, a person not served with the decision must transmit a notice of appeal in time for it to be filed within 30 days after the date of publication.

(b) The notice of appeal must give the serial number or other identification of the case and may include a statement of reasons for the appeal, a statement of standing if required by Sec. 4.412(b), and any arguments the appellant wishes to make.

(c) No extension of time will be granted for filing the notice of appeal. If a notice of appeal is filed after the grace period provided in Sec. 4.401(a), the notice of appeal will not be considered and the case will be closed by the officer from whose decision the appeal is taken. If the notice of appeal is filed during the grace period provided in Sec. 4.401(a) and the delay in filing is not waived, as provided in that section, the notice of appeal will not be considered and the appeal will be dismissed by the Board.

4.2 CONTACT INFORMATION

Pursuant to 43 CFR §§ 4.411, if an appeal is taken, a notice of appeal must be filed in the Hollister Field Office, 20 Hamilton Court, California 95023, within 30 days from the date the Notice of Availability for the Record of Decision is published in the Federal Register. Upon receipt of a notice of appeal, the Hollister Field Office will forward the decision and the accompanying administrative record to IBLA promptly. See Patrick G. Blumm, 116 IBLA 321, 334 (1990). For more information on CCMA, please call the Hollister Field Office at (831) 630-5000.

5.0 LIST OF PREPARERS

Name	Job/Project Title	DEIS/FEIS Responsibilities
Hollister Field Office		
George Hill	Field Manager	Project Lead
Elizabeth Allen	Park Ranger	Recreation
Jason Clark	Trails Coordinator/GIS	Route Inventory
Bruce Cotterill	Range Specialist	Riparian Resources
Julie Delgado	Botanist	Special Status Species
Gary Diridoni	Wildlife Biology	Wildlife & Riparian Resources
Sam Fitton	Biologist	Special Status Species
Robert LaFleur	CCMA Coordinator	Recreation & Trails
Timothy Moore	Physical Scientist	Air, Soils, Water
Sky Murphy	Environmental Planning Specialist	NEPA/Public Involvement
Lesly Smith	Outdoor Recreation Planner	Recreation & Public Affairs
Eric Wergeland	GIS Specialist	Maps/Figures
Brian White	CCMA Coordinator	Recreation & Implementation
Erik Zaborsky	Archaeologist	Cultural Resources, Native American Consultation
California State Office		
Eliseo Ilano	Planning and Environmental Coordinator	NEPA/Coordination & Consultation
Jim Keeler	OHV Coordinator	OHV Recreation
Edward Lorentzen	Endangered Species Specialist	ESA Compliance
John Mills	Environmental Coordinator	NEPA
Jim Weigand	Ecologist	Special Status Species
John Willoughby	Botanist	Special Status Species
BLM National Science & Technology Center		
Scott Archer	Senior Air Resources Specialist	Air Quality

APPENDIX B
BARREN DESIGNATION

HOLLISTER FIELD OFFICE
CLEAR CREEK MANAGEMENT AREA
BARREN DESIGNATION WORKSHEET

1. Barren Number:
2. Barren Characteristics
   Acres

Criteria Name	Criteria Value1	Determination Date	Mitigation
Offsite Sedimentation			
Soils			
User Demand			
Uniqueness of Vegetation			
Potential for Limiting Use			
Potential for Impact to T&E			
Pristine			
RNA/WSA/SMA			

4. BARREN DESIGNATION:
   (If Limited, Describe Limitation)

5. BARREN DESIGNATION DATE:

6. Other Proposed Actions

7. Barren Specific Rationale:

8. Decision Record:
   This decision is in conformance with the Hollister Field Office Resource Management Plan, 1984; Clear Creek Management Plan and Record of Decision, 1986; Clear Creek Management Plan Amendment and Record of Decision 1999; and the proposed action.

9. Decision Criteria: Includes all criteria identified in 43 CFR 8342.1 parts (a) through (d) and the proposed action.

HOLLISTER FIELD OFFICE
CLEAR CREEK MANAGEMENT AREA
BARREN AREA EVALUATION CRITERIA and DATA ELEMENT DICTIONARY

Introduction: The following criteria represent the data on which decisions about authorized vehicular recreation use of barren areas is based. The data element dictionary describes the allowed responses for each criterion.

Barren Area Designation Criteria

These criteria were developed through public involvement, staff meetings, and interviews with professionals working in other areas with OHV use. Where possible, mitigation measures are discussed that can be used to reduce the expected motorized OHV impacts under each criterion. The Geomorphic Field Evaluation of Serpentinite Soil Barrens, CCMA (Dynamac Corp., 1998), contains useful data to be considered in the designation process. The objectives of this field evaluation were: 1) to determine the degree of soil erosion and sedimentation taking place within the barrens; 2) to evaluate natural and human influences on sedimentation and erosion within the barrens; and 3) to develop a barren inventory and ranking system. Key information from this study used in this designation process includes; stream orders present, hydrographic position, vegetation cover, vegetation boundary/buffer, amount of gullying, slope, armoring present, sediment trapping features, and contribution of sediment to sub-watersheds with high erosion rates. For the purposes of this document "barrens" are defined as a general term applied to openings in serpentine hillslopes larger than 10 acres which support almost no herbaceous or woody vegetation.

Soils

The serpentine watersheds in the CCMA contain soils formed from highly sheared, and readily eroded, serpentine rock containing abundant chrysotile asbestos. Soils of barren areas are critical for supporting existing plant species and communities, and as potential habitat. Eroded soil is transported down-slope by various erosion processes and contributes to off-site transport of sediments. Vehicle use on these barren slopes disrupts the natural soil crust and surface gravel layer, resulting in increased erosion. The lack of vegetation on these soils and the particular soil characteristics, are part of the reason these areas are desired by many OHV recreation users.

Erosion and Sedimentation

Concentrated OHV use in any particular area within the CCMA is likely to produce some off-site sedimentation. Resource condition objectives constrain activities leading to erosion and off-site delivery of the eroded material. Methods to reduce off-site sediment transport are avoiding or reducing erosion, assuring that sediment producing activities are adequately separated from active stream channels, and installing structures designed to capture sediments before delivery into active streams. Factors to be considered in evaluating a barren include; the potential for off-site sedimentation, sediment yields to sub-watersheds with high erosion rates, and the feasibility of capturing sediments naturally or with installation of sediment traps. Dynamac's (1998) data for each barren was used in evaluating this criterion.

Soil Characteristics

While all barrens have some soil characteristics in common, each needs to be evaluated individually. The barren's slope, aspect and position hydrographically, all contribute to the area's suitability and sustainability for concentrated OHV use. Additionally, it is important to review soil depth, and amount of rock mixed in the soil, and whether an organic layer exists. The degree of armoring is a factor indicating low levels of use and the ability of the barren to sustain itself over time.

Recreation

OHV recreation users have been riding on the barrens with increasingly frequency over the past 40 years. Besides increases in the number of people taking part in OHV related activities, advances in motorcycle performance have contributed to this trend. The barrens within the CCMA provide a wide spectrum of terrain from broad rolling ridgelines to steep hill-climbs. Some of the barren areas are therefore available for even the beginner, while some hill-climbs give professional motorcyclists a challenge.

User Demand

Not every barren can provide characteristics of interest to each OHV recreation user. The designation process should keep in mind the desirability of a wide variety of riding experiences and levels of expertise of the OHV user. It is also important to take into account proximity to staging areas. Dispersed opportunities away from the Clear Creek Canyon may also be considered. An additional factor is the ability to provide recreation opportunities on a sustained basis and whether use of the barren would result in a reduction in the quality of the recreation experience compared to the current condition. These factors will be addressed in the written rationale portion of the Designation Record.

Vegetation

The barrens support sparse but diverse communities of vegetation which grows on them. These areas are characterized by a general lack of shrub or tree cover, a sparse but distinctive cover of native annual plants, and a high percentage of exposed bare ground and /or gravel lag. Several of the designation criteria characterize the barren's existing condition, and potential for on and off-site disturbance relative to vegetation.

Uniqueness of Vegetation and Potential for Damage

All but the most heavily used portions of some barrens have unique assemblages of vegetation. This uniqueness results from the plant's need for special adaptations, to thrive on the especially challenging serpentine soils. Few plants have been able to survive and compete in the presence of the rigors presented by high nickel and low calcium concentrations coupled with harsh climate and intense sunlight. Some barrens are known to provide habitat for special status plants. While special status plant species will be avoided and protected, there may be barrens that can be

designated open, when sufficient natural or human-made barriers fully protect special status plant populations. Protection of the plant communities unique to the barren areas are an important consideration.

Potential for Limiting Use to Designated Areas

Some barrens in the CCMA are adjacent to or provide access to areas that are sensitive (riparian areas, sensitive plant habitat, unique forest communities). Vegetation boundaries are important for confining use to open barrens and providing a buffer from sensitive areas. Protection of sensitive areas adjacent to a barren and limiting route proliferation are important factors in evaluating designation of the barren.

Potential for Impact to Threatened, Endangered and Special Status Species

Threatened, endangered and special status species shall be protected from the impacts of OHV use. OHV use on adjacent barrens can impact special status species habitat by off-site sediment delivery, riders going outside of the designated open area onto sensitive habitat. Factors considered under this parameter include the presence of sensitive species habitat nearby, the proximity of OHV use to sensitive species and their habitat, and the potential contribution to the degradation of that habitat.

Pristine/Natural Condition

This category seeks to protect the currently least impacted barrens and the San Benito Mountain Research Natural Area and ACEC (including the Wilderness Study Area). In protecting these areas, the Bureau is fulfilling a Resource Condition Objective stated in the Record of Decision (1999) of maintaining intact portions of the ecosystem for proper function and comparison monitoring, and maintaining an aesthetic and wilderness character of some areas of the CCMA.

Pristine

A small number of barrens in the CCMA have had little or no OHV use. They tend to be characterized by having intact gravel lag, few gullies or rills, and often have reddish or brown soil away from rock outcroppings in contrast to the white soils typical of high OHV use areas. The few remaining intact barrens are critical to maintain for studying contrasts to the effects of concentrated OHV use. Pristine barrens will not be selected for concentrated OHV use. OHV use of non-pristine barrens adjacent to, or near, pristine barrens must be carefully evaluated for the potential to impact pristine barrens.

SBMRNA/ACEC/WSA

The San Benito Mountain Research Natural Area and ACEC completely encompass the San Benito Mountain Wilderness Study Area, managed under the Interim Management Guidelines for Wilderness Study Areas. OHV use of barrens within either the WSA or the SBMRNA is incompatible with the values for which these areas were established. It is also important to avoid impacting either of these areas in ways inconsistent with their intended purposes. Barrens that are contiguous to the existing RNA and/or encompassed within the area of the expanded RNA boundary, will not be considered for OHV use in the designation process. An additional factor is whether the barren is within an existing riparian closure or special management area.

Data Element Dictionary

Soil

Off-site sedimentation (Dynamac data plus staff observation)

Code	Definition
11010	Off-site transport but sufficiently trapped, few impacts, use o.k.
11119	Off-site delivery, impacts active channel, use NOT O.K.
11129	Off-site delivery, impacts sensitive habitat, use NOT O.K.
11139	Off-site delivery, impacts cultural, use NOT O.K.
11149	High subwatershed erosion rate, NOT O.K.
11212	Impacts to active channel, POTENTIAL MITIGATION
11222	Impacts to sensitive habitat, POTENTIAL MITIGATION
11232	Impacts to cultural, POTENTIAL MITIGATION
TEXT	TEXT DESCRIPTION OF MITIGATION PROPOSAL

Soils (Dynamac data plus staff observation)

Code	Definition
12010	High hydrographic position, use o.k.
12119	Armoring, use NOT O.K.
12129	Low hydrographic position, use NOT O.K.
12139	Steep slope, use NOT O.K.
12212	Armoring, POTENTIAL MITIGATION
12222	Low hydrographic position, POTENTIAL MITIGATION
12232	Steep slope, POTENTIAL MITIGATION
TEXT	TEXT DESCRIPTION OF MITIGATION PROPOSAL

Recreation

User demand

Code	Definition
13010	Recreation opportunity, use o.k.
13119	No recreation opportunity, use NOT O.K.
TEXT	TEXT DESCRIPTION OF MITIGATION PROPOSAL

Vegetation

Uniqueness of vegetation and potential for damage

Code	Definition
14010	Vegetation cover, use o.k.
14119	Unique/sensitive species, use NOT O.K.
14129	Poor vegetation cover for reducing erosion, use NOT O.K.
14212	Vegetation cover, POTENTIAL MITIGATION
14222	Unique, POTENTIAL MITIGATION
TEXT	TEXT DESCRIPTION OF MITIGATION PROPOSAL

Potential for Limiting Use to Designated Area (Vegetation Boundary)

Code	Definition
15010	Vegetation boundary, use o.k.
15212	Poor vegetation boundary, POTENTIAL MITIGATION
15119	Poor vegetation boundary, use NOT O.K.
TEXT	TEXT DESCRIPTION OF MITIGATION POTENTIAL

Potential for impacts to Sensitive Species

Code	Definition
16000	No conflicts with sensitive species, use o.k.
16010	Sensitive species nearby, use o.k.
16119	Sensitive species nearby, use NOT o.k.
16212	Sensitive species nearby, POTENTIAL MITIGATION
TEXT	TEXT DESCRIPTION OF MITIGATION POTENTIAL

Pristine/Natural Condition

Pristine

Code	Definition
17010	Does not threaten to impact a nearby pristine area, use o.k.
17119	Pristine condition, use NOT O.K.
17129	Likely to threaten pristine area, use NOT O.K.
17212	Mine area adjacent to barren, POTENTIAL MITIGATION
17139	Adjacent area of concern, use NOT O.K.
17222	Adjacent area of concern, POTENTIAL MITIGATION
TEXT	TEXT DESCRIPTION OF MITIGATION PROPOSAL

San Benito Mountain Research Natural Area/WSA/ACEC

Code	Definition
18010	Area not in or potentially threatening to SBMRNA/ACEC, use o.k.
18119	Area within SBMRNA/ACEC, use NOT O.K.
18129	Area adjacent to or threatens SBMRNA, use NOT O.K.
18139	Special management area/existing closure, use NOT O.K.
18212	Area adjacent to or threatens SBMRNA, POTENTIAL MITIGATION
TEXT	TEXT DESCRIPTION OF MITIGATION PROPOSAL

HOLLISTER FIELD OFFICE
CLEAR CREEK MANAGEMENT AREA
BARREN DESIGNATION RECORD

Barren No	Barren Acres	Barren Designation	Barren Evaluation Criteria							
			1	2	3	4	5	6	7	8
1	67.5	CLOSED	11119							18139
2x	294.62	CLOSED	11119	12129	13010	14119	15119	16119	17129	18010
			11129	12139		14129				
2a	58.27	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
2b	13.37	OPEN	11010	12010	13010	14010	15010	16000	17212	18010
3	23.27	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
4	17.96	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
5	36.02	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
6x	377.56	CLOSED	11119	12129	13010	14129	15119	16000	17010	18010
			11149							
6a	5.41	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
6b	66.36	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
6c	39.28	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
6d	75.67	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
									17212	
6e	65.7	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
7x	30.89	CLOSED	11119	12139	13010	14010	15010	16000	17010	18010
			11129							
7a	42.08	OPEN	11010	12010	13010	14010	15010	16000	17010	18010
8	252.56	CLOSED	11119	12129	13010	14119	15119	16119	17010	18139
			11129							
			11149							

HOLLISTER FIELD OFFICE
CLEAR CREEK MANAGEMENT AREA
BARREN DESIGNATION RECORD

Barren No	Barren Acres	Barren Designation	Barren Evaluation Criteria							
			1	2	3	4	5	6	7	8
9x	181.33	CLOSED	11119	12129	13010	14129	15119	16119	17139	18139
			11129	12139						
			11149							
9a	22.09	OPEN	11010	12010	13010	14010	15010	16212	17010	18010
9b	8.72	OPEN	11010	12010	13010	14010	15000	16000	17010	18010
10a	4.01	OPEN	11010	12010	13010	14010	15000	16000	17010	18010
10x	55.17	CLOSED	11119	12129	13010	14010	15119	16119	17010	18010
11	17.88	CLOSED								18139
12	105.31	CLOSED								18139
13	62.17	CLOSED								18139
14	99.87	CLOSED		12119						18129
15	141.19	CLOSED								18119
16	36.58	CLOSED								18119
17	176.26	CLOSED								18119
18	46.78	CLOSED								18119
19	12.9	CLOSED								18119
20	14.99	CLOSED								18119
21	39.27	CLOSED								18119
22	187.19	CLOSED							17139	18139
23	49.48	CLOSED							17139	18139
24	51.26	CLOSED							17139	18129
25	97.39	CLOSED								18119

HOLLISTER FIELD OFFICE
CLEAR CREEK MANAGEMENT AREA
BARREN DESIGNATION RECORD

Barren No	Barren Acres	Barren Designation	Barren Evaluation Criteria							
			1	2	3	4	5	6	7	8
26	91.18	CLOSED								18119
27	21.32	CLOSED	11129	12129				16119		18139
				12139						
28	15.82	CLOSED	11129	12129				16119		18139
29	35.58	CLOSED	11129	12129				16119		18139
30	22.29	CLOSED	11129	12129				16119		18139
31	40.95	CLOSED	11119	12129						18139
32	24.58	CLOSED	11010	12010	13010	14119	15010	16119	17119	18010
33	24.08	CLOSED								18139
34	26.3	CLOSED	11119	12232	13010	14010	15119	16000	17010	18010
35	52.82	CLOSED	11119	12139		14129	15119		17139	18139
36	314.38	CLOSED								18139
37	17.72	CLOSED	11119							18139
38	22.33	CLOSED		12119					17119	
39	20.01	CLOSED		12119					17119	
40x	74.79	CLOSED								18139
40a	62.33	CLOSED				14119				18119
41x	5.49	CLOSED				14119		16119	17139	

HOLLISTER FIELD OFFICE

CLEAR CREEK MANAGEMENT AREA
BARREN DESIGNATION RECORD

Barren No	Barren Acres	Barren Designation	Barren Evaluation Criteria							
			1	2	3	4	5	6	7	8
41a	25.84	CLOSED	11010	12010	13010	14010	15010	16212	17139	18010
42x	7.04	CLOSED		12119		14119		16119		
42a	6.46	CLOSED							17139	18139
43	10.45	CLOSED	11010	12010	13010	14010	15010	16000	17139	18010
44	17.01	CLOSED	11010	12129	13010	14010	15010	16000	17129	18010
				12119						
45	42.86	CLOSED								18119
46	10.29	CLOSED								18119
47	75.05	CLOSED								18119
48	17.14	CLOSED							17139	18139

APPENDIX C
IMPLEMENTATION PLAN

Implementation of the proposed route designations will be phased in over five years. The schedule below identifies when implementation will first occur. Tasks such as monitoring, maintenance, patrol, and research will continue beyond the five-year period. Funding will come from BLM funds, grants, and partnerships. Volunteers will be used whenever possible. Rehabilitation and maintenance efforts will remain in accordance with Best Management Practices.

Immediate Actions (Target 0-2 Years):

1. Using GPS, identify and sign all open and limited route designations and create a database of sign locations and types. Signs will be placed at intersections of open and limited routes. Closed routes may be signed on a priority basis if there are problems with compliance. All routes not signed are closed to OHV use.
2. Corridor fence all remaining routes through any closed mine areas. Fence routes through closed barren areas as determined by BLM and FWS.
3. Fence, barricade, and sign closed routes which provide access to CABE habitat and other areas of concern (i.e. sensitive species, riparian areas, closed areas, and special management areas), prioritizing areas along the following routes: OR642, T104, T105, T107, T115, T135, T218, R008, T165, T241, and T261. Protective measures enlarging *Camissonia* exclosures will be implemented as determined by BLM and FWS to encompass the entire habitat polygon. This measure is intended to ensure protection of *Camissonia* and its habitat by accommodating movement of the footprint of occupied habitat over time, and may require minor modifications of the route network
4. Continue implementing inventory and assessment of all designated routes in accordance with State soil loss protocols. Implement protocol for monitoring soils, vegetation, and species of concern.
5. Continue to perform annual recurring and corrective route maintenance and implement Best Management Practices (BMP's).according to Route Maintenance Objectives (RMO) for specific trail types based on the results of the soil loss assessment. A plan will be developed to implement Best Management Practices on stream crossings on the designated route system.
6. Prepare Research Natural Area Management Plan for the SBMRNA (Appendix E) and prevent trespass and impairment of values for which established.
7. Develop barren restoration plan to reclaim closed barrens and minimize erosion and sediment delivery.
8. Complete inventory of all routes not in the current database. Evaluate routes through the established screening criteria. Providing routes meet the criteria and contribute to the route network they may be added to the route system within the thresholds identified in this plan amendment.
9. Identify closed routes and implement restoration plan for reclamation to return to a natural state and trend towards background erosion rates.

10. Monitor soil erosion and sediment yield to streams through Clear Creek gauging station. Implement soil erosion control measures, silt fences, and sediment trapping features.
11. Create and implement new Sign Plan. Place large portal signs at entry points informing visitors of vehicle use restrictions, asbestos public health hazards, and compliance with protective measures for sensitive species habitat.
12. Post maps of designated route and barren network on kiosks within the project area.
13. Have copies of maps with the revised route and area designations available for review and distribution at the Hollister Field Office.
14. Monitor closed routes for violations and rehabilitation needs according to BMP's. Monitor effectiveness of protection measures and law enforcement techniques.
15. Rehabilitate new illegal routes as they are discovered.
16. Ensure laws regarding sound levels of OHV use and ambient noise are enforced by sampling levels at selected sites during both peak and off-peak seasons.
17. Purchase, rotate, and monitor traffic counters. Log time of use, and monitor use patterns to include remote portions of the project area.
18. Continue existing, and explore new outreach approaches to contact visitors with brochures, maps, and information. Continue to emphasize the 'Leave No Trace' and the 'Tread Lightly' programs.
19. Conduct Fee Collection Study to determine effectiveness in implementing new fee collection in project area to help fund project activities. In the interim institute a program to register all vehicles and OHV's entering the area.
20. Construct and maintain kiosks at main access points to the project area.
21. Implement Park Host Program.
22. Acquire funds to construct new Decontamination Area near entrance to Clear Creek Management Area for BLM (and possible public) use.
23. Construct new entrance booth for information and collection of fees.
24. Develop and implement plan to sign routes of travel by levels of technical difficulty to better meet the needs of the public's range of skill and enjoyment and to promote safety.

Midterm Actions (Target 3-4 Years):

25. Continue to fence, barricade, and/or sign closed routes with continued OHV activity.
26. Continue to implement restoration plan for reclamation of routes to return to a natural state and trend towards background erosion rates.
27. Monitor the success of rehabilitation efforts.
28. Produce/revise local area brochures with a map of designated routes including the route's level of technical difficulty.
29. Research and implement techniques to control dust levels on routes traveled within the project area with respect to asbestos and within the guidelines of the BMP's.
30. Research and construct new 'alternative use' trails for non-motorized activities such as hiking, biking, and equestrian.
31. Maintain protocol for monitoring soils, vegetation, and species of concern.
32. Sample air quality (PM10 standards) for ambient quality and determine the effects of off-highway vehicles both within and outside of the Asbestos Hazard Area.

Long-term Actions (Target 5+ Years):

33. Monitor soil loss, compliance, protection measures, and restoration data on routes of travel in the project area.
34. Continue to fence, barricade, and/or sign closed routes with continued OHV activity.
35. Continue to implement restoration plan for reclamation of routes to return to a natural state and trend towards background erosion rates.
36. Explore new methods of distributing route maps (e.g., CD ROMs, internet, etc.).

Budgets/Funding

Funding will remain at a level consistent with previous years. We do not anticipate increased appropriated funds in Fiscal Year 05 or in future years. Appropriated funding for recreation, recreation facilities, threatened and endangered species, and cultural resources programs will be utilized benefiting the proposed actions. Funding will also be sought from other sources such as California Off-Highway Vehicle Commission Grants. Maintenance, monitoring, inventory, route assessment, updating surface land status maps, developing brochures, and installing and replacing kiosks are tasks that are needed under the proposed action. Sign replacement and changing route numbers are tasks that will be accomplished by normal route maintenance. Whenever possible, volunteers, military training missions, donation of labor and equipment, and other sources of free labor will be utilized to stretch existing funds. Charging for maps, entrance fees, and brochures is a possible funding source. The implementation period will be extended if funding shortfalls occur for equipment, materials, or labor.

Patrol

Patrol is a high priority task to minimize damage to cultural and sensitive plant and wildlife species. Patrols are critical to obtaining compliance with route designations. Patrols are also used to aid the Sheriff's Office in search and rescue operations and to provide first aid assistance to visitors. Scheduled patrols will be conducted by park rangers and law enforcement rangers. In addition, all BLM staff will be responsible for day to day monitoring of recreational activities. Law enforcement rangers will enforce violations of route designations and resource damage.

Route Maintenance

The two main objectives of route maintenance are implementation of Sign Plan and Route Maintenance Objectives.

Sign maintenance includes:

1. Installing emergency safety and resource closure signs as needed.
2. Replace faded and damaged signs with stickers for both carsonite and metal signs.
3. Replace damaged or faded carsonite and metal signs.
4. Remove and replace damaged sign posts.

5. Install new signs where violations occur, rehabilitation is needed, and as safety needs are identified.
6. Removal of closed signs where routes have successfully been rehabilitated.

Route Maintenance Objectives include:

1. Improved/Maintained Roads [Width > or = to 14 ft., Vertical Clearance > or = to 14 ft.]

Discussion: FIMMS level 4 road- this level is assigned to roads where management objectives require the road to be open all year (except may be closed or have limited access due to snow conditions) and to connect major administrative features (recreation sites, local road systems, administrative sites, etc.) to County, State, or Federal roads. Typically, these roads are single or double lane, aggregate, or bituminous surface, with higher volume of commercial and recreational traffic than administrative traffic.

The entire roadway is maintained at least annually, although a preventive maintenance program may be established. Problems are repaired as discovered. These routes will be maintained for access year-round for all vehicles. Route designation will be open to all vehicles unless designated for administrative use only.

- General access to the CCMA

2. 4WD Recommended [Width > or = to 10 ft. Vertical Clearance > or = to 14 ft.]

Discussion: FIMMS level 3 road- this level is assigned to roads where management objectives require the road to be opened seasonally or year-round for commercial, recreation, or high volume administrative access. Typically, these roads are natural or aggregate surfaced, but may include low use bituminous surfaced roads. These roads have defined crossings section with drainage structures (e.g., rolling dips, culverts, or ditches). User comfort and convenience are not considered a high priority.

Drainage structures are to be inspected at least annually and maintained as needed. Grading is conducted to provide a reasonable level of riding comfort at prudent speeds for the road conditions. Brushing is conducted as needed to improve sight distance. Slides adversely affecting drainage will receive high priority for removal; otherwise they will be removed on a scheduled basis. Route designation will be open to all vehicles unless designated for administrative use only.

- Primary use trail/admin trail

3. Technical 4X4 Route/Jeep Trail [Width > or = to 6 ft., Vertical Clearance > or = to 6 ft.]

Discussion: FIMMS level 2 roads- this level is assigned to roads where the management objectives require the road to be opened for limited administrative traffic. Typically, these roads are passable by high-clearance vehicles.

Drainage structures are to be inspected within a 3-year period and maintained as needed. Grading is conducted as necessary to correct drainage problems. Brushing is conducted as needed to allow administrative access. Slides may be left in place provided they do not adversely affect drainage. Route designation will be open to all vehicles.

- Primary use trail/no admin/occasional emergency fire/LE etc.

4. Multiple Use Trail (ATV/MC) – [Width > or = to 3 ft., Vertical Clearance > or = to 6 ft.]

Moderate use trail with visitor use on a seasonal/and or peak use period with frequent contact between parties. Trail management is conducted with occasional visitor use patrols. Visitors are not likely to encounter obstructions.

(Maintenance standards for level 3 trail)- The trail shall require a minimum of one condition survey 1 to 2 times per season. Major repairs shall be completed annually. Maintenance shall be scheduled two to three times per season, if required, to repair the trail for environmental damage and to maintain access. Route designation will be limited to ATVs or motorcycles.

- Primary use recreation access

5. Single Track Trail [Width > or = to 18 in., Vertical Clearance > or = to 6 ft.]

FIMMS level 2 trail- Low use trails with little or no contact between parties. Little or no visitor use management. Visitors may encounter obstructions like brush and deadfall.

Trail will require condition surveys once every year. Repairs will be done at the beginning of the season to prevent environmental damage and maintain access. Emphasis is given to maintaining drainage and mitigating hazards. Major repair may not be done for several seasons. Route designations will be limited to motorcycles only.

Infrequent storms may require extensive repair work. At times the repair work becomes a reconstruction project. Estimates for major repairs are not included due to their infrequency and cost variance.

- Primary use recreation access

Sign Implementation Plan

Implementation of a sign plan will be a key factor in the success of gaining and maintaining visitor compliance. The Bureau uses signs to provide various types of information to visitors. For example, even though the visitor is responsible for knowing and complying with existing rules and regulations, the Bureau still uses signs and other methods to provide regulatory information. Typical uses of signs for managing off-highway vehicle use include:

1. Provide information about the area.
2. Describe regulations for an area.
3. Quickly inform visitors of changes in route designations (e.g., emergency safety closures) until new maps and brochures can be prepared and printed.
4. Advise visitors of where and how to obtain help in an emergency.
5. Interpret an area's history, geology, wildlife, botany, etc., for visitors.
6. Numbered route signs:
    - 6.1. Help to identify location and aid in accurately locating visitors in search and rescue operations.
    - 6.2. Help visitors plan, with maps, to meet friends at specific location or to take off-highway vehicles touring trips.
    - 6.3. Help visitors to precisely identify sections of routes they like or dislike. For example, where maintenance is needed.
    - 6.4. Reduce the probability of volunteers becoming disoriented and making a mistake while traveling routes.
    - 6.5. Allow visitors to accurately report the location of safety hazards (e.g., shooting across routes of travel, drunk drivers, fires, open mine shafts, etc.).
7. Identification of route designations, open play areas, and Research Natural Area boundaries.
8. Identification of Open and Limited routes of travel within the CCMA.
9. Identify problem Closed routes and barrens.
10. Aid in minimizing conflict between different recreational users.

Area designation signs and route signs relate directly to implementing route designations proposed by this Plan Amendment. The route signing plan will work in compliance with 43 CFR 8342.1 which establishes criteria for designating routes and areas and informing the public of where OHV use is authorized. The presence, or absence, of signs does not change route designations. Signs identify authorized use of current route designations and prohibit use of non-designated or 'closed' routes.

Protocol for Monitoring Soils, Vegetation, and Species of Concern

Monitoring protocol meets or exceeds the requirements mandated by the California Department of Parks and Recreation, OHMVR Division. This protocol can be viewed at the BLM Hollister Field Office. The protocol requires monitoring all designated OHV trails on BLM lands in California that benefit from Green Sticker Funds granted to the BLM by the OHMVR Commissioners.

Objectives for monitoring soils, vegetation and species of concern include:

1. Reduce environmental degradation stemming from OHV activity.
2. Protect federal and State of California threatened, endangered, and special status plant and animal species.

Yearly monitoring of designated routes will be conducted in accordance with this protocol. Using GPS technology, the OHV Trail Monitoring Team will survey routes and input data concerning designated OHV trails into an Access database.

Seasonal Closures

There are two types of seasonal closures are applicable to the CCMA; wet season and dry season. In both cases, roads will remain open for administrative use. The dry season closure will reduce air emissions, thus protecting the public from these airborne emissions. The wet season closure will reduce rutting of roads and trails, reducing sediment transfer into the various watersheds.

The wet season closure procedures can be implemented after the annual total precipitation exceeds 8 inches. Once 8 inches of precipitation has been exceeded, the following will apply. Additional rainfall exceeding ½ inch within a 24 hour period or 1 inch within a 72 hour period will result in a three day closure. Once the area has been closed a field inspection will be completed prior to reopening, and daily thereafter to determine suitability of road conditions.

Best Management Practices and Protection Measures

The BLM will implement Best Management Practices (BMP) to reduce impacts to watershed resources, and will continue to evaluate and update these measures as needed to minimize impacts to water quality, control erosion and sediment production. These measures include drainage improvements, construction of rolling dips, water bars, rock armored/hardened stream crossings, hardened sills, and half-pipe bridges, and are contained in Appendix D. These site treatments are incorporated into BLM's annual corrective route maintenance plan. BLM will also institute protection measure to protect riparian areas and sensitive species habitat. Closed routes will be restored and obscured with natural barriers or barricades.

The following table lists unit costs for these management practices.

	Cost in $	Unit Qty
Trail Repairs		
Rolling Dip	105	each
Outslope	10.5	feet
Grading	1,050	mile
Brushcutting	2,000	acre
Remove Berm	10.5	feet
Berm Drain	65	each
Fill Ditch	1,050	mile
Re-Route	4,000	mile
Waterbar	55	each
Energy Dissipater	650	each
Stream and Drainage Crossings		
Correct Drainage	210	each
Clean Inlet (Culvert)	85	each
Clean Outlet (Culvert)	170	each
Flume	250	each
Reset Flume	125	each
Drop Inlet	150	each
Excavate Crossing	350	each
Ford Crossing	3,500	each
Install Culvert	2,000	each
Retaining Wall	125	sq ft
Habitat Protection		
Sign	50	each
Fence	4	feet
Repair Fence	100	each
Pipe Barrier	*25*	*feet*

	Cost in $	*Unit Qty*
Rehabilitation		
Trails <48" Wide		
Stabilization	3,400	*mile*
Obliteration	17,000	*mile*
Trails <96" Wide		
Stabilization	6,800	*mile*
Obliteration	27,000	*mile*
Trails <144" Wide		
Stabilization	13,600	*mile*
Obliteration	55,000	*mile*
Trails >144" Wide		
Stabilization	21,250	*mile*
Obliteration	85,000	*mile*
Revegetation	25	*square yard*
Facilities		
Visitor Contact Sta.	40,000	*each*
Vault Latrines	18,000	*each*
Campground/1 site	4,000	*each*
Info Kiosk 3-panel/roof	2,500	*each*
Info Kiosk 2-panel/roof	2,000	*each*
Info Kiosk 1-panel/roof	1,000	*each*
Info Board	450	*each*
Gate, Type 1	3,000	*each*
Gate, Type 2	2,000	*each*
Gate, Type 3	1,000	*each*

APPENDIX D
BEST MANAGEMENT PRACTICES

The following management practices were compiled from various sources listed in the reference section. These practices are listed as methods for correcting problems related to the watershed concerns influenced by a variety of agency programs and actions. Many of these management practices are specific measures which will need additional study to determine how or if they effectively apply to the specific conditions in the Clear Creek Management Area. All of these management practices will need to be monitored and evaluated to determine their effectiveness. These management practices have been grouped into the following, broad categories: general, mining and related activities, roads, and recreation facilities, and barrens. Many of these management practices have been implemented over the years. BLM does not propose to have funds available to implement all referenced management practices. The continuing priority in the short term is to provide for protection of unstable areas, minimize sediment production, protect water quality by minimizing soil erosion, and ensure that constructed erosion control structures are stabilized and working. Of primary concern are management practices to reduce impacts from erosion related to roads, which have been identified as a significant contributor of sediment yield above background erosion rates. Minimizing erosion on OHV routes/trails, involving control of drainage, road slope stabilization, slope design, stream crossings, stream course protection, and restriction of road use during the wet season are critical components to improving watershed conditions.

Watershed Management Goals Related to Soil Loss:

- Limit sediment production from roads, trails, and disturbed areas (hill climbs, mining areas).
- Limit vegetation and stream channel disturbance and associated sediment production.
- Minimize direct mass movement of soil into stream channels (from steep slopes and mining areas).

Watershed Management Actions:

Special management practices will be developed for the ACEC, in order to protect and prevent irreparable damage to important resource values and to protect life and property from natural hazards.

Develop barren area restoration plan within one year.

Erosion control structures will be used to decrease erosion resulting from public recreation activities.

Install additional vehicle barriers to control access to riparian corridors and sensitive watershed areas.

Stabilize/rehabilitate severely eroding trails, hill climbs and naturally barren areas in Clear Creek Canyon. Stabilization methods include rock walls, rock armoring of stream crossings, contour trenching, gully plugs, and water diversions.

Continue a regular planned maintenance program for major routes and trails in the Clear Creek Management area (e.g., waterbar construction and outsloping).

The following is a list of practices that have been implemented and will continue to be implemented, practices that will be further developed, and management practices that will need further evaluation and planning prior to implementation. Continued implementation of management actions related to controlling erosion and sediment yield to minimize impacts to watershed resources are generally within the capability and budget constraints of the BLM. In all cases, BMPs will be identified that best address resource condition objectives and will be phased in over a period of time.

On-going Management Actions – High Priority

MP – 6: Watershed Restoration
MP – 17: Erosion Control on ORV Trails
MP – 1: Protection of Unstable Areas
MP – 12: Road Stream crossings
MP – 7: Erosion Control Structure Maintenance
MP – 16 Control of Road Drainage
MP – 11: Stream course Protection
MP – 19: Maintenance of Roads
MP – 13: Road Slope Design
MP – 18: Minimization of Side-cast Material
MP – 10: Environmental Health and Safety Hazard Awareness
MP – 3: Restrict Development within the Floodplain
MP – 14: Road Slope Stabilization

Management Practices Needing Further Development –(0-2 years)

MP – 5: Re-vegetation of Surface Disturbed Areas
MP – 20: Control of Road Use During Wet Periods
MP – 2: Streamside Management Zone Designation
MP – 24: Silt Fences
MP – 25: Erosion Control Blankets
MP – 26: Rock Backfilling of Gullies
MP – 15: Dispersion of Subsurface Drainage from Cut and Fill Slopes
MP – 30: Rock Filter
MP – 31: Gabion Mattresses
MP – 21: Surface erosion Control at Facility Sites
MP – 9: Restoration of Borrow Pits, Quarries, and Mining Operations (ongoing)

Lower Priority MPs

MP – 22: Control of Sanitation Facilities (completed)
MP – 23: Control of Refuse Disposal (completed)
MP – 8: Regulation of Streamside Gravel Borrow Areas (not currently applicable)
MP – 27: Check Dams (significant planning and study required)
MP – 28: Interceptor Dyke and Swale (significant planning and study required)
MP – 29: Sediment Basin (significant planning and study required)
MP – 4: Specifying Riprap Composition

GENERAL

MP –1: Protection of Unstable Areas

Objective: To provide for protection of unstable areas and thereby avoid triggering mass movements of the soil mantle and resultant erosion and sedimentation.

Explanation: This management practice will help protect unstable areas by reducing or stabilizing their high erosion rates. Unstable slopes will be protected by use of fences and barriers to eliminate or channel ORV use away from these areas, and by gully plugs, water diversions, etc. as needed.

MP- 2: Streamside Management Zone Designation

Objective: To designate a zone along streams where prescriptions are made that will minimize the adverse effects of nearby land disturbance activities including roads, by: (1) acting as an effective filter for sediment generated by erosion from road fills and dust drift; (2) maintaining shade riparian habitat (aquatic and terrestrial), and channel stabilizing effects; (3) keeping the floodplain surface in a resistant, undisturbed condition to limit erosion by flood flows.

Explanation: Activities near streams need to be carefully designed and managed. At designated roads and stream crossings, fill and side cast material must be kept at a distance from nearby streams to minimize their impact on the critical riparian zone and on the stream itself. Factors such as stream class channel aspect, channel stability, side-slope steepness, and slope stability are considered in determining the constraints of activities and width of stream side management zones. It is vital to stabilize till slopes before the stream side management zone is saturated with sediment. The streamside management zone is not a zone of exclusion, but a zone of closely managed activity. It is a zone which acts as an effective filter and absorptive zone for sediment, maintains shade, protects aquatic and terrestrial riparian habitats, protects channel and stream banks, and promotes flood plain stability.

MP – 3: Restrict Development within the Floodplain

Objective: To avoid, where possible, the long and short-term adverse impacts to water quality associated with the occupancy and modification of floodplains.

Explanation: A floodplain analysis and evaluation will be made when sites within floodplains are being considered for structures or developments. Environmental quality, ecological effects, and individual safety and health are considered. Flood frequencies, watershed conditions, climatic and environmental factors associated with past flood events, flood flow quantities and specific flood boundaries are all evaluated.

MP – 4 Specifying Riprap Composition

Objective: To minimize sediment production associated with the installation and utilization of riprap materials.

Explanation: Riprap is commonly used to armor stream banks, stream crossings, and drainage ways from the erosive forces of flowing water. Riprap must be sized and installed in such a way that it effectively resists erosive water velocities. Stone used for riprap should be free from weakly structured rock, organic material and materials of insufficient size, all of which are not resistant to stream flow and would only serve as sediment sources. Outlets of drainage facilities in erodible soils commonly require riprap for energy dissipation. The Corps of Engineers and Federal Highway Administration procedures are commonly used for designing riprap structures.

MP – 5 Re-vegetation of Surface Disturbed Areas

Objective: To protect water quality by minimizing soil erosion through the stabilizing influence of vegetation.

Explanation: This is a corrective practice to stabilize the soil surface of a disturbed area. The vegetation selected will be a mix of species best suited to meet the management objectives of the area, be it wildlife, recreation, watershed, or fuels management. Endemic species (grass or browse shrubs) may be used between recently planted trees where appropriate for aesthetics, erosion prevention or wildlife needs. The factors evaluated are soil fertility, slope, aspect, soil water holding capacity, climatic variables, and suitable species selection. Re-vegetation of some disturbed areas in serpentine soils may not be feasible.

MP – 6: Watershed Restoration

Objective: To improve water quality and soil stability.

Explanation: Watershed restoration is a corrective measure to: (1) repair degraded watershed conditions and restore the hydrologic balance with a vegetative

cover that will maintain or improve soil stability, reduce surface runoff, increase infiltration, and reduce flood occurrence and flood damages; (2) conserve the basic soil resource; (3) maintain and improve water availability; and (4) enhance economic, social, and scenic benefits of the watershed. Factors considered are: predicted change in water quality, downstream values, on-site productivity, threat to life and property, direct and indirect economic returns, and social and scenic benefits. Examples of watershed restoration measures are gabion structures, back filling gullies with rock, and constructing water diversions.

MP – 7: Erosion Control Structure Maintenance

Objective: To ensure that constructed erosion control structures are stabilized and working.

Explanation: Erosion control structures are only effective when they are in good repair and stable condition. Once the erosion control structures are constructed and seeded where practicable, there is a possibility that they may not become adequately vegetated or stabilized or they may become damaged from subsequent activities. It is necessary to provide follow-up inspections and structural maintenance in order to avoid these problems and insure adequate erosion control.

MINING AND RELATED ACTIVITIES

MP – 8: Regulation of Streamside Gravel Borrow Areas

Objective: To limit channel disturbances and sediment production associated with gravel source development.

Explanation: Materials deposited along channel sections during storm runoff often provide an inexpensive source of gravel. Because of easy access this gravel is often in demand; with adequate planning, it can often be removed with minimal impact on water resources. Under some circumstances, gravel removal may alter stream flow characteristics and consequently affect stream channel stability and create a new sediment source. Borrowing should be limited to gravel bars above the water line which is normal for the period of excavation. If the borrow area is subject to periodic flooding, some leveling, shaping, or other special drainage features should be provided. Excavation should not take place below the water table unless sediment basins are built to contain or catch the resulting sediment. Sediment basins should not be subject to washouts. If excess sediment accumulates in basins, excavators should be required to clean the basin and deposit removed sediment in approved sites. Serpentine areas should not be used as a gravel source for use outside of the serpentine area.

MP – 9: Restoration of Borrow Pits, Quarries, and Mining Operations

Objectives: To minimize sediment production from borrow pits, quarry sites and mining operations.

Explanation: Borrow pits, quarries, and mining operations are often susceptible to erosion due to steel side slopes, lack of vegetation, and/or their proximity to water courses. When ever necessary, prior excavation of the site, top soil should be removed and stockpiled for surface dressing in the post operation rehabilitation period. Once excavation has been completed on all or part of the area, the sides will be sloped and graded and the general pit area smoothed and stabilized. Oversize material, if left in the pit or quarry, should be evenly distributed. Finer materials should be spread over the bottom of the pit prior to spreading stockpiled or imported top soil. Seeding and mulching may be required and sediment basins should also be considered. Access roads to the site should be ripped, drained, blocked to traffic, and seeded unless other treatment is required by the design.

MP – 10: Environmental Health and Safety Hazard Awareness

Objective: Improve the level of visitor awareness of environment health and safety hazards, e.g., asbestos hazard in dust and water.

Explanation: The public will be encouraged through signs, pamphlets, media exposure and public contact to conduct their activities in ways that will not unnecessarily expose themselves to environmental hazards.

ROADS

MP – 11: Stream course Protection

Objective: (1) To protect the natural flow of streams, (2) to provide unobstructed passage of storm flows, (3) to reduce sediment and other pollutants from entering streams, and (4) to restore the natural course of any stream as soon as practicable if the stream is diverted as a result of management activities.

Explanation: The following points are fundamental to protecting streams and stream courses:

a. Vehicles should not operate within stream side management zones except where trails and roads cross the stream channel.

b. Water bars and other erosion control structures will be located so as to prevent water and sediment from being channeled into stream courses and to dissipate concentrated flows.

c. Material resulting from temporary road and ORV trail stream course crossing should be removed and stream banks restored and protected to the extent practicable.

MP – 12: Road Stream crossings

Objective: To ensure that roads do not unduly damage streams or disturb channels.

Explanation: Culverts or other means are necessary on roads (temporary, semi-permanent, or permanent) at all locations where it is necessary to cross designated streams. Alternate means of crossing stream courses may include: rock fills, hardened fords (using such features as rocked approaches) and low water crossings. Most (if not all) crossings of perennial streams should be approved by an inter-disciplinary team. Such facilities should be designed to provide for unobstructed flows and to minimize damages to stream courses. The number of crossings should be kept to the minimum needs for access. Channel crossings should be as perpendicular to stream courses as possible. Stream bank excavation should be kept to the minimum needed for use of the crossings, and entry and exit ramps may need to be rocked. Fords and turnpike crossings hardened with washed rock or landing mats are sometimes an acceptable alternative depending upon hydrological considerations.

MP – 13: Road Slope Design

Objective: To reduce sedimentation by: (1) minimizing erosion from road slopes, and (2) minimizing the chances for slope failures along roads.

Explanation: No stabilization project can entirely prevent erosion from cut and fill slopes, but no road construction should be planned without considering stabilization needs. The first planning requirement is for an adequate soil and geologic investigation, to provide data necessary for proper cut and fill design consideration such as:

(1) The proper cut and full slopes for the material;
(2) The handling of surface and subsurface drainage;
(3) Necessary compaction standards and surfacing needs.

A prerequisite for stabilization is to provide basic mechanical stability of the soils, using data from soils and geologic investigations to develop requirements for proper slope angles, compaction, and adequate drainage.

MP – 14: Road Slope Stabilization

Objective: To improve road cut and fill slope stabilization by applying mechanical and vegetative measures.

Explanation: Few slopes are sufficiently rocky to be naturally stable without needing additional measures. In most cases mechanical, and/or vegetative measures are required. Mechanical measures include but are not limited to: erosion nets, terraces, wattling, side drains, sub-surface dewater devices, blankets, fute mats, riprap, mulch, tackifier pavement, soil seals, and gunnite. Vegetative measures include the seeding of endemic herbaceous species (grass, legumes, or browse species) or the planting of endemic brush or trees. Vegetative measures may include: fertilization, mulching (or even watering) to insure success. A combination of endemic vegetative species often produces a better result than a more simplistic treatment, e.g., grass seeding alone. (See also MP – 5).

MP – 15: Dispersion of Subsurface Drainage from Cut and Fill Slopes.

Objective: To minimize the possibilities of cut or fill slope failure and the subsequent production of sediment.

Explanation: Roadways may drastically change the surface drainage characteristics of a slope. Since the angle and height of cut and fill slopes increase the risk of instability, it is often necessary to provide subsurface drainage to avoid moisture saturation necessary because of slopes, soil, aspect, and precipitation. Methods that should be used:

(1) Pipe under drains
(2) Horizontal drains
(3) Stabilization trenches

Dispersion of collected water should be accomplished in an area capable of withstanding increased flows. On erosive soils, energy dissipaters need to be placed below pipe carrying large volumes of runoff water.

MP – 16 Control of Road Drainage

Objective: (1) To minimize the erosive effects of water concentrated by road drainage features; (2) to disperse runoff from disturbances within the road clearing limits; (3) to lessen the sediment load from road areas; (4) to minimize erosion of the road prism by runoff from road surfaces and from uphill areas.

Explanation: A number of measures can be used (alone or in combination) to control the detrimental effects of road drainage. Methods used to reduce erosion may include such things as properly spaced cross drains or water bars, dips, drop basins, energy dissipaters, aprons, downspouts, gabions, debris racks, and armoring of ditches and drain inlets and outlets. Disposal of runoff can be accomplished by such means as rolling the grade; out sloping; installation of water spreading ditches; contour trenching; or adequate sized over side drains, etc. Disposal of runoff also reduces peak down stream flows and associated

high water erosion and sediment transport. Sediment loads can be reduced by installing such things as sediment filters, settling ponds, and contour trenches. Soil stabilization can help reduce sedimentation by lessening erosion on borrow and waste areas, on cut and fill slopes and on road shoulders.

MP – 17: Erosion Control on ORV Trails and Temporary Roads.

Objective: To protect water quality by minimizing erosion and sedimentation derived from ORV trails and roads.

Explanation: Installation of erosion control measures may be required on OHV trails and temporary roads. This work may involve cross ditches and water spreading ditches. Other methods such as back-blading may be used in lieu of cross drains. Volunteer groups may also be used for constructing erosion control structure projects.

MP – 18: Minimization of Sidecast Material.

Objective: To minimize sediment production originating from material sidecast during road construction or maintenance.

Explanation: Unconsolidated side-cast material is very difficult to stabilize and often such material is susceptible to erosion and / or mass instability. Sidecasting of un-compacted material should be permitted only at locations designated through interdisciplinary input, and shown in the plans. In some areas especially those slopes over 60 percent, end hauling may be the only acceptable alternative to sidecasting even though the costs are high and end-haul equipment may need certain minimum widths in which to work. Waste areas should be located where excess materials can be deposited and stabilized. During road maintenance operations, care should be taken to eliminate the deposition of sidecast material onto stabilized slopes. Disposal of slide debris should be done only at designated water areas. Personnel performing road maintenance should confine excavated or embankment material within the roadway limits and the roadway should be constructed in reasonably close conformity with the lines, grades, and dimensions designated on the ground. They should also remove materials deposited outside the roadway. All materials should be incorporated in the planned work. Disposal of excess excavation which develops due to miscalculation or a specific design change should be disposed of in a specified manner and at a specified location.

MP – 19: Maintenance of Roads

Objective: To maintain roads in a manner which provides for water quality protection by minimizing rutting, failures, sidecasting, and blockage of drainage facilities – all of which can cause sedimentation and erosion.

Explanation: Roads normally deteriorate because of use and weather impacts. This deterioration can be minimized through adequate maintenance and /or restriction of use. All system roads should be maintained to provide the basic custodial care required to protect the road investment and to see that damage to adjacent land and resources is held to a minimum. This level of maintenance often requires an annual inspection to determine what work, if any is needed to keep drainage functional and the road stable. This level is the normal prescription for roads that are closed or seasonally closed to traffic. As a minimum measure, maintenance must protect drainage facilities and runoff patterns. Higher levels of maintenance may be chosen to reflect greater use or resource administrative needs. Additional maintenance measures could include resurfacing, out sloping, clearing debris from dips and cross drains, armoring of ditches and spot rocking.

MP – 20: Control of Road Use During Wet Periods

Objective: (1) To reduce road surface disturbance and rutting of roads; and (2) to lessen sediment washing from disturbed road surfaces.

Explanation: The unrestricted and official use of many unimproved and semi-improved roads during wet weather often results in rutting and churning of the road surfaces. Run off from such disturbed road surfaces often carries a high sediment load. The damage/maintenance cycle for roads that are frequently used in winter can create a disturbed road surface that is a continuing sediment source. Roads that are used during wet periods should have a stable surface and/or sufficient drainage to allow such use with a minimum of resource impact. Rocking, oil, paving, and armoring are measures that may be necessary to protect the road surface and reduce material loss. Drainage should be maintained to prevent water from standing on the road surface or running down the road creating rills and gullies in the road surface.

RECREATION FACILITIES

MP – 21: Surface erosion Control at Facility Sites

Objective: Limit the amount of surface erosion taking place on developed sites and the amount of soil entering streams.

Explanation: On lands developed for campgrounds, parking areas or waste disposal sites much ground is cleared of vegetation. Erosion control methods need to be implemented to keep as much of the oils in place as possible and to reduce the amount of soil entering streams Some examples of erosion control methods that can be applied at a site for keeping the soil in place would be applying endemic species seed, jute matting, tackifiers, hydro mulch, paving or rocking of roads, water bars, cross drains, or retaining walls. To control the amount of soil entering streams, the natural drainage pattern of the area should not be

changed. Sediment basins and sediment filters should be established to filter surface runoff. Diversion ditches and berms should be built to divert surface runoff around bare areas. Construction activities should be scheduled to avoid periods of the year when heavy runoff will occur.

MP – 22: Control of Sanitation Facilities.

Objective: To protect surface and subsurface water quality from bacteria, nutrients, and chemical pollutants resulting from collection, transmission, and disposal of sewage from Bureau of Land Management facilities.

Explanation: Toilet facilities are provided at semi-developed and developed recreation sites. Sanitation facilities will be planned, located, designed, constructed, operated, inspected and maintained to minimize the possibility of water contamination. Toilet facilities should be located outside of the flood plain.

MP – 23 Control of Refuse Disposal

Objective: To protect water quality from nutrients, bacteria, and chemicals associated with solid waste disposal.

Explanation: Users of public land recreation facilities are encouraged cooperate in the proper disposal of garbage and trash. Receptacles are provided at most semi-developed sites. Garbage and trash must be packed out by those who use dispersed areas. The final disposal of collected garbage will be at a proper designated and operated sanitary landfill. The land fill site will be located where groundwater and surface waters are at safe distances as prescribed by State or local Health Board regulations.

BARRENS

The purpose of this section is to present sediment and erosion control BMPs that are potentially applicable for active OHV play areas. Due to the unique conditions at the Clear Creek Management Area (i.e., topography, climate, soil types, vegetation, and recreational OHV use), the effectiveness of the proposed BMPs is difficult to predict. There is very limited practical experience with BMPs for conditions similar to those found at Clear Creek.

In order to directly evaluate the efficiency of the proposed BMPs at Clear Creek, it is recommended that a BMP pilot program be implemented. Under the pilot program, the BMPs considered by BLM to be most feasible based on the available budget will be implemented on a limited scale. Each selected BMP is implemented at one or two sites that meet its applicability criteria and using different designs where possible. The effectiveness of each BMP is then evaluated over the course of one year. At the end of the evaluation, BLM will identify the most effective BMPs and designs and will expand their use at other sites with similar features within the Clear Creek Management Area.

MP – 24 Silt Fences

Objective: A silt fence consists of a geotextile fabric attached to supporting poles, which is used to intercept, reduce velocity, and filter surface runoff.

Explanation: Silt fences are effective in areas where sheet flow occurs for example, at lower end of active play areas, particularly at the interface between a play area and a vegetation buffer; base of slopes; and along streams. Silt fences provide retention of runoff sediments, decrease runoff flow velocity and energy, protect downslope vegetation from sedimentation and wash-out, and provide visual indication of play area lower boundary. Installation does not require construction equipment or skilled labor and is low cost.

MP – 25 Erosion Control Blankets

Objective: Erosion control blankets are mats made of synthetic or natural material, or a combination of the two, which are stapled to the soil on steep slopes to control erosion and promote the establishment of vegetation.

Explanation: The use of erosion control blankets is limited to narrow strips adjacent to the lateral boundaries of vegetated areas located downgradient of active OHV use areas. In order for the blankets to be effective, the soil over which they are installed should be of sufficient quality to support vegetation growth. The soil surface must be relatively smooth, without rock, deep depressions, or debris. The blankets may be seeded to improve the vegetation establishment process. This BMP may be combined with the use of silt fences, which are described earlier in this section. A silt fence may be installed upgradient of a vegetated area and extended laterally to protect the erosion protection blanket strips. Benefits and advantages of erosion control blankets include: effective protection of soils on highly erodable slopes: they absorb and hold moisture near the soil surface; promote vegetation establishment; may be installed on steep slopes; and they do not require construction equipment or skilled labor.

MP – 26 Rock Backfilling of Gullies

Objective: Filling gullies with loose angular rock prevents further deterioration from water erosion.

Explanation: This practice is used primarily in naturally incised drainage channels that concentrate flow and significantly contribute to sediment generation and transport. This method may be combined with the check dam application where lower, more accessible sections of a gully may be backfilled with rock and the check dams would be constructed at higher sections of the gully. Benefits of rock backfilling include: a decrease in runoff flow velocity and energy; retention of runoff sediment which, over time, may clog the void

spaces and "heal" the gully; and maintenance can be minimal with proper construction.

MP – 27 Check Dams

Objective: Check dams decrease runoff flow velocity and energy and provide retention and settling of runoff sediments.

Explanation: Check dams are small structures made of logs, stone, or silt fence that are constructed across a gully or ephemeral stream in order to lower the speed, retain sediments, and diminish the erosion potential of concentrated flows. Installation does not require construction equipment or skilled labor and is low cost.

MP – 28 Interceptor Dyke and Swale

Objective: Interceptor dykes and swales are used to decrease runoff flow energy, protect downslope vegetation from sedimentation and wash-out, and provide visual indication of play area lower boundary.

Explanation: Dykes are ridges of compacted soil and swales are excavated depressions. A dyke is constructed adjacent and downslope of the swale from materials excavated for the construction of the swale. In most cases the swale is stabilized with riprap. Dyke and swale systems intercept overland flow and convert it into concentrated flow with lower, non-erosive velocity. The diverted flow is discharged to a suitable outlet. Dykes differ from silt fences in that it intercepts and diverts all runoff from upload areas, whereas, silt fences allow runoff to filter though the fence and reach lower areas.

MP – 29 Sediment Basin

Objective: Sediment basins provide retention of runoff sediments up to 60 to 70%, decrease runoff flow velocity and energy, and protect downslope vegetation from sedimentation and wash-out.

Explanation: A sediment basin is a pond created by constructing a dam across a drainage way, and is designed to detain runoff in order to allow suspended sediments to settle. The pond is provided with a riser connected to a discharge pipe, which ends downgradient of the dam. The pipe is placed perpendicular to and at the base of the water flow. In the pond, water accumulated until its level exceeds the height of the riser and the excess water discharges though the pipe to the downgradient outlet. The basin volume below the top of the riser is the sediment storage zone. The dam should be constructed of materials less permeable than gravel and clean sand. Local materials such as silty sand, clayey sand, and silt, are acceptable if they are free of debris. The storage volume may be increased by evacuation the area in from of the dam, and

excavated materials may be used for the construction of the dam. The structure is provided with an emergency spillway to prevent water from flowing over the dam in flood conditions. The ratio between the basin length and width should be between 2:1 and 9:1.

MP – 30 Rock Filter

Objective: Rock filters provide retention of runoff sediments, decrease runoff flow velocity and energy, and create physical boundaries for OHV's.

Explanation: A rock filter consists of a berm of crushed rock (size 1.5 to 3 inches), wrapped in poultry wire (one inch diameter hexagonal mesh, galvanized 20 gauge), and placed parallel to topographic contour lines on a horizontal surface at the toe of a slope. The purpose of the rock filter is to intercept sediment laden runoff from disturbed areas of the site, reduce flow velocity, promote sedimentation, and release the water as sheet flow. Rock filters are low cost and require low maintenance.

MP – 31 Gabion Mattresses

Objective: To provide retention of runoff sediments, decrease runoff flow velocity and energy, and create a physical boundary for OHV's.

Explanation: A gabion mattress is a wire-mesh box filled with crushed rock. Typical mattress dimensions are: Height – six to nine inches; length – nine to twelve feet; and width – six feet. The purpose of gabion mattresses similar to that of the filter rock in which sediment laden runoff is intercepted from disturbed areas of the site, flow velocity is reduced sedimentation is promoted, and water is released as sheet flow. The main differences between mattresses and filter rock are: gabion mattresses may be placed on the slope before and after the slope break at the toe; gabion mattresses are more resilient; and mattresses are wider, resulting in better sediment trapping efficiency.

WATER QUALITY & WATERSHED POLICY AND PLANNING GUIDANCE

Management Summary & Reference Chronology

- 1984 & 1986 Watershed Protection Measures (also called best management practices or BMP's) were adopted in 1984 Hollister Resource Management Plan & subsequent 1986 Clear Creek Activity Plan.

- 1990, EPA conducted a regional report, "Characterization of Disturbances Related to Mining and Exploration in the New Idria Study Area". This report documented erosion & sediment sources and remedial measures to reduce off-site sediment transport in the area.

- 1992, BLM, publishes in the Federal Register, Planning Criteria for the Clear Creek Environmental Impact Statement. The planning criteria included references to the Clean Water Act, and State of California OHV Grant Soil Loss guidance and standards.

- 1993, BLM's consultant completed a report on the 10,000 acre Clear Creek Watershed, which field mapped and computer modeled the erosion and sediment transport due to natural and anthropogenic causes.

- 1995, BLM's consultant (Pacific Watershed Associates, PWA), completed a 110 mile road related erosion and sediment watershed assessment.

- 1996, BLM installed with the USGS, a water quality monitoring station in Clear Creek. This station monitors water quality (heavy metals, asbestos, total sediment), and is real-time data available both published annually and on the internet.

- 1998, BLM's consultant completed two reports, water quality monitoring of abandoned mined areas, and a geomorphic evaluation of the "OHV play areas".

- 1999, California OHV Green Sticker Grant for Clear Creek requires a soil loss monitoring plan.

- 2000, BLM completes 5 abandoned mercury mine restoration projects.

- 2003, BLM develops dust mitigation plan for the Monterey Bay Unified Air Pollution Control Board, for road related erosion stabilization projects

- 2003, draft mercury sediment TMDL for Clear Creek proposed by Central Coast Regional Water Quality Control Board.

Appendix E

SAN BENITO MOUNTAIN RESEARCH NATURAL AREA INTERIM MANAGEMENT PLAN AND MANAGEMENT GUIDANCE

In 1999 (Clear Creek Management Area Plan Amendment and Final FEIS Record Of Decision, 1999), the BLM designated the San Benito Mountain Natural Area as a Research Natural Area (SBMRNA) to encourage research and provide protection of the unique conifer forest and vegetation communities on and around San Benito Mountain. The 1999 ROD also expanded the boundaries of the existing SBMRNA as identified in this Plan Amendment. A Research Natural Area Management Plan (Activity Level Plan) will be completed within one year. This interim plan will guide management of the SBMRNA and identify management goals and objectives that the subsequent RNA management plan will address in greater detail. Management objectives and prescriptions will be developed that permit natural processes to continue without interference.

1.1 INTRODUCTION

The Bureau of Land Management establishes and maintains Research Natural Areas (RNAs) for the primary purpose of research and education. RNAs have one or more of the following characteristics (43 CFR 8223 – Research Natural Areas):

- A typical representation of a common plant or animal association;
- An unusual representation of a common plant or animal association;
- A threatened or endangered plant or animal species;
- A typical representation of common geologic, soil, or water features;
- Outstanding or unusual geologic, soil, or water features.

J.R.Griffin (1970) stated in his original recommendation to establish the San Benito Mountain Natural Area that "…it would in no way duplicate any North Coast Range serpentine natural area and would be a highly desirable contrast with them." The SBMRNA and proposed expansion possess a combination of soils, climate, elevation, and location that has resulted in an assemblage of serpentine vegetation without duplication elsewhere (Griffin 1970). The San Benito Mountain Forest is the only forest in the world that supports Jeffrey, Coulter, and gray pines, and incense cedar, and Jeffrey x Coulter pine hybrids. The federally threatened San Benito evening-primrose (*Camissonia benitensis*) also occurs here. While not common, serpentine ecosystems range widely in California. Great diversity in California topography, geologic history, and climate makes a representative "typical" serpentine area in California impossible. By including the SBMRNA, BLM completes a full representation of protected serpentine ecosystems of California. The relatively intact soils toxic to most plant species, the isolated high-elevation ecological processes, and the unusual plant and animal species composition qualify the area as having outstanding and unusual ecologic, soil and water features. Parallel to the biological

diversity and endemism of the Clear Creek Management Area, the natural mineralogical diversity contributes to the global uniqueness of Clear Creek.

These distinctions represent the function of CCMA forests to conserve the biodiversity represented by the unusual genetic and species assemblages of this Research Natural Area.

The following planning criteria will guide development of the San Benito Mountain Research Natural Area Management Plan:

1.2 PLANNING

1.2.1 Management Goals

The following management goals will contribute to preserving the values for which the RNA was established:

1) To protect the globally unique San Benito Mountain serpentine forest ecosystem, special status species, and the adjacent ecotones in their natural state for science research and educational purposes.

   The San Benito Mountain serpentine forest ecosystem brings together conifer tree species in the San Benito Forest, a forest type that occurs nowhere else in the world (Griffin 1974; Sawyer and Keeler-Wolf 1995). This forest also has endemic shrub and herbaceous serpentine species that include the federally threatened San Benito evening-primrose (*Camissonia benitensis*). The complex geological history of this area has produced exceptionally toxic soils that have influenced the composition of forest vegetation.

   This goal furthers resource management under the Resource Management Plan for the lands administered by the BLM Hollister Field Office (1984, Vegetation and Soil, Air, and Water components) and under the Clear Creek Management Area Proposed Resource Management Plan Amendment and Final Environmental Impact Statement (1995) including the Modified Preferred Alternative 3 (1997).

2) To define and create a environment for research designed (1) to investigate and better understand the geology, biology, ecology, and archaeology; (2) to address asbestos related public health issues; and (3) to build an information base for guiding management of this and other serpentine ecosystems on BLM lands.

   This goal furthers the public interest under the Environmental Protection Agency regulations regarding asbestos in natural environments. In addition, this goal establishes a natural laboratory for gathering information about this unique ecosystem for improved management and conservation.

3) To allow uses inside the RNA compatible with the primary purpose of the Research Natural Area for scientific research and education.

As a natural laboratory, the RNA will have limited public access to reduce impacts and influences of people on the terrain and vegetation. However, BLM will encourage visits guided by BLM personnel and researchers on site for the public. BLM will also specialize in interpretive services for the public so that people may learn about the RNA and enjoy visits to the RNA.

1.2.2 Management Objectives

Management objectives result in actions that BLM and the public evaluate as measures of success in attaining the management goals. Because new information will become a part of adaptive management of the RNA and nearby ecosystems, the management objectives may evolve over to time to meet legal requirements and public expectations.

The following list includes management objectives that will contribute to permitting natural processes to continue within the RNA:

1) Include and maintain for conservation, within management constraints, the entire San Benito Forest and a buffer with the transitional chaparral / woodland habitats that border the Forest.

2) Establish RNA boundaries on the basis of watershed or other natural features. The BLM policy for its Research Natural Areas is to "Permit natural processes to continue without interference." and to "Determine the boundaries for all vegetation series representatives. In order to preserve the greatest diversity possible, the boundaries will include a variety of slope exposures and elevational features, and should follow natural boundaries."

3) Protect the sites of known occurrences as well as potential habitats of the San Benito evening-primrose and provide conditions within the RNA in support of the recovery plan that conforms to the Biological Opinion for the San Benito evening-primrose issued by the U.S. Fish and Wildlife Service, September 16, 1996.

4) Protect existing occurrences and habitat of all other known BLM sensitive species that occur within the RNA boundaries. [Refer to Tables 1 and 2, Appendix F for the list of the BLM sensitive species.]

5) Protect all cultural resources and encourage public partnerships for research and educational use of the RNA.

6) Consult with Native Americans from local tribes for management consistent with traditional Native American culture and for full tribal participation in planning, research and environmental education.

7) Facilitate quality research with an established steering committee selected from: universities and colleges; other private research institutions; the Native American community; federal and State of California government research and regulatory agencies; and public interest groups and advisory committees. The steering committee will identify research needs and

guide proposed research. Establishment and function of the steering committee shall meet the provisions established by the Federal Advisory Committee Act (FACA).

8) Foster other uses of the RNA that are compatible with its primary purpose. Provide for continued authorized uses such as rights-of-way and easements that are compatible with management values for the RNA.

9) Implement the Hollister Resource Management Plan, the Clear Creek Management Area (CCMA) Plan Amendment and accompanying Environmental Impact Statement, and Record of Decision as they specifically apply to the San Benito Mountain Research Natural Area for the protection and improvement of soil, air, biological, and water resources.
10) Provide for public safety.

11) Develop a Fire Management Plan for the SBMRNA with a pre-fire season trip with the Hollister Field Office Fire Management Officer (FMO) so that the FMO is aware of the sensitive species habitat locations and vehicle access routes.

12) Develop a barren area restoration plan to reduce erosion, sediment transport, and restore vegetation buffers.

13) Develop a science agenda to determine characteristics of the unique ecosystem that are important and what the management response will be to changes in these characteristics.

1.2.3 Science Agenda

Science supports the sustainable resource management of the Clear Creek Management Area and provides the objective information upon which BLM managers make choices for the benefit of the public. The BLM does not presume to have sufficient funding for all elements in the Science Agenda for the San Benito Mountain Research Natural Area. People interested in the Science Agenda come from diverse disciplines and interest groups and from diverse government agencies, research institutions, universities in California and other states, and in several instances, internationally.

Development of the Science Agenda will include the following components:
1) Natural resource inventories;
2) Historic research of sociological and ecological events;
3) Vegetation and habitat classification by soil, topography, surficial geology, and climate regime;
4) Monitoring for ecosystem processes, species, and recreation;
5) Ecological research;
6) Ecosystem modeling; and
7) Partnerships for accomplishing the science agenda.

1.2.3.1 Natural Resource Inventories

Ultramafic Rock Outcrops and Barrens
Remote sensing techniques and follow-up ground-truthing can delineate more accurately areas of exposed chrysolite-bearing ultramafic outcrops and barrens. The BLM is contracting for digital aerial imagery of the entire CCMA in 2004, correlating spectral reflectance data to vegetation and soil types.

A preliminary database of ultramafic rock outcrops and barrens (Dynamac, 1998) will furnish a set of reference sites where BLM can inventory fungi, plants, and animals found on outcrops and barrens; monitor natural asbestos in the air, water, and soil; and detect and monitor eventual changes stemming from historical OHV recreation play on barrens within the RNA.

Lichen Species
Both saxicolous (on stone) and epiphytic (on trees and shrubs) lichens are present in the SBMRNA. Information about lichens in ecosystems with ultramafic soils and rock is very limited. Saxicolous lichen species on ultramafic rock respond to an atypical geochemical environment as well as extreme ranges of humidity/aridity, temperature, and solarization. The inventory of lichen species will provide a baseline from which researchers can monitor eventual changes in distribution and frequency within the SBM RNA. Identification of lichens may uncover previously unknown range extensions of rare species and complete the inventory of lichens.

Because lichens are useful for detecting heavy metal concentrations and air-born pollutants, they may serve as indicators of environmental changes relevant to human health and ecosystem function. The unique ultramafic soils in the SBMRNA frequently contain high amounts of mercury, chromium, and other heavy metals as well as unusual assemblages of vascular plant species. Unusual mixes of lichen species may occur as well. The physiological and chemical interactions between lichens and their rock substrates may help researchers to better understand ways to mitigate environments contaminated with heavy metals and asbestos found in the SBMRNA.

Non-Vascular and Vascular Plant Species and Habitats
The diversity of rare vascular plants is one of the most remarkable features of the CCMA. Inventory of all plant species in the SBMRNA is currently underway with the help of BLM natural resource specialists, and local botanists working under the MOU between the BLM and the California Native Plant Society. This Inventory serves as a baseline for GIS analyses describing the ranges of habitat characteristics in which rare plants currently exist, existed in the past, or might exist under BLM management. The inventory will also serve as a baseline for tracking and mapping non-native invasive plants of concern to the BLM and to the California Department of Agriculture.

Existing information sources from herbarium holdings, expert knowledge, and inventory results will describe:

- historically known sites
- historically known sites outside the CCMA but useful to define critical habitat features inside the CCMA
- delineation of first approximations of suitable habitat for each rare species
- plant searches for suitable and occupied habitats
- refinement of delineation of suitable and occupied habitats
- a risk-management strategy, identification of habitat locations that have a high probability to sustain populations without directed BLM management or with species-specific directed management.

The plant species of most immediate concern for mapping and for habitat delineation are found in Appendix F.

Arthropod Species

Little information about the diversity or uniqueness of arthropod species from the Clear Creek Management Area is available. However, endemism of arthropod species in ultramafic ecosystems of the CCMA is likely. Studies of the checkerspot butterflies at Jasper Ridge in Santa Clara County (Dobkin et al. 1987), for example, have documented that rare or endemic arthropods are likely in ultramafic ecosystems of California. The isolation and uniqueness of the SBM RNA forest ecosystem provides an island-like condition for endemic evolution: a forest island within an ultramafic soil island. Many rare ultramafic plants have associated arthropod species that are rare and that have unique physiology, such as accumulation of heavy metals (Schwarz and Wall 2001).

Bat Species

Presently, no data are available about bats resident in the SBMRNA or in the rest of the Clear Creek Management Area. BLM lands elsewhere in California with a history of mining have frequently become important habitats for bats. Abandoned mines host bats, mostly as single-species colonies, and perhaps only seasonally as maternity dens, migration rest stops, hibernation sites, and colonial roosts during the day. Many bats species are BLM California species of management concern. In view of the absence of information about bat populations in the SBM RNA and the CCMA, wildlife biologists want to know whether abandoned mines there are suitable habitat for bats, and in particular rare bats.

Forest Inventory Analysis of SBMRNA

Currently, the USDA Forest Service, Pacific Northwest Research Station Forest Inventory and Analysis (FI&A) Program has permanent plots, systematically selected throughout the Pacific Coast States. To understand the changes in the SBM RNA forests, the BLM can review the data collected from the Forest Service over several decades. In addition, the BLM will “intensify” the number of long-term monitoring plots by random selection of additional plots.

Small isolated populations of conifer tree species in the Central California Coast Region are important globally for genetic resources. The genetic resources from Jeffrey pine, Coulter pine, and incense cedar from San Benito Mountain resemble island-like distributions analogous to that

of Monterey pine in the Central Coast Region. The genetic resources of these conifer species may be atypical in comparison with populations of these species in the core areas of their ranges. Ledig (2000) has found that the unique hybrids between Coulter pine and Jeffrey pine from San Benito Mountain, first described by Zobel (1951a,b), may have altered the genetic structure of Coulter pines through introgression.

1.2.3.2 Historical Research

The research agenda here refers to factors and forces that have shaped the RNA into its present form today and provide a point of departure for management into the future. BLM will encourage other government and university researchers as well as interested members of the public to pursue these topics.

Climate History of the SBMRNA
Understanding the development of soils and vegetation types in the SBM RNA for the future requires identification of the processes that have created the current forest in the RNA. Of particular importance to the BLM is to know whether the ecological conditions in the past that created the current forest are similar to diverse modeled scenarios of future climate.

Fire History of the SBMRNA
Coupled with climate history, fire frequency is likely to have had and will continue to have a profound effect on the vegetation cover of ultramafic soils of the SBM RNA. Knowing the fire history through tree core analysis and soil sampling and correlating that history with information on historical climate will provide BLM resource managers with information to model likely outcomes of future fires in the RNA.

In shrubland parts of the RNA, the chaparral biomass loads may fuel natural fires in ways different from adjacent forest lands. Analysis of fire history in chaparral ecosystems such as those by Keeley (2002) in the Sierra Nevada foothills and Moritz (2003) in the nearby Los Padres National Forest may help BLM managers guide future fire occurrence and protect chaparral vegetation for key vertebrate species that rely on extensive chaparral habitats.

Inundation History of the SBMRNA and Effects on Surficial Geology
Several plant species of management concern, most notably the San Benito evening-primrose, inhabitat alluvial terraces of the RNA. Rare floodwater events may be critical to the amount of potential habitat for the evening-primrose and affect sub-populations of the species with local extinctions and with new habitats after flood events. The history of flood events would provide a range of natural conditions under which the species has survived. If flooding frequencies and intensities begin to occur significantly outside the past statistical distribution of occurrences, BLM managers will be able to respond with conservation measures to meet new conditions.

Human History and Land Use of the CCMA
The BLM archaeologist at the Hollister Field Office has begun compiling current knowledge about the history of the CCMA before European settlement. Additional interpretive information about the history of settlements and land use is invaluable to the public to understanding the types and variety of ecological impacts and economic benefits generated in the CCMA. Values

such as recreation opportunity, biological diversity, and ecosystem sustainability are part of the mix of values that people seek from the CCMA.

1.2.3.3 Vegetation and Habitat Classification

The BLM Hollister Field Office contracted a soil survey for the Clear Creek Management Area that met the 1989 Order 3 Soil Survey standards established by the USDA Natural Resource Conservation Service (NRCS). Data from the Survey are now part of the Field Office geographic information system. In the time since completion of the Clear Creek soils survey, the NRCS has expanded its portfolio of services to include delineation of ecological sites, that is, sites with uniform patterns of vegetation types and plant and animal species composition linked to soils, topography, and climate. Classification of vegetation according to correlations with soil types provides important information to resource managers. Information from the ecological site descriptions and delineations help BLM resource managers predict more accurately outcomes of management actions on the soils, plants, and animals of the diverse ecosystems that comprise the Management Area. Ecological site delineation and derived analyses will assist managers in making decisions about restoration projects, habitat suitability and management for targeted wildlife species, and protection measures for plant species composition.

1.2.3.4 Monitoring for Ecosystem Processes and Recreation Use

Rates of Ultramafic Soil Formation and Erosion
One major concern of BLM managers is the stability of ultramafic soils under differing kinds of disturbance. Results from monitoring can combine over time to provide a watershed-scale model of net amounts of sediment flows and changes to stream channel morphology. Both sediment flows and stream morphology are critical factors for shaping and transforming land areas in ways that affect populations of rare plants such as the San Benito evening-primrose.

One easy way to measure soil erosion is to establish silt fences at key sites of overland erosion (Robichaud and Brown 2002). These fences can measure changes to sites, especially near habitats for the San Benito evening-primrose, and provide verification for needed restoration throughout the RNA. BLM will determine locations to establish silt fences in tandem with restoration projects to document the effectiveness of intended improvements.

Water Erosion and Sediment Deposition
Maps of surface geology can help BLM managers organize management actions to improve recreation and to conserve species habitats. Understanding the susceptibility of soils (sediment) to erosion helps managers to balance management appropriate to the soil and terrain with the capacity for site stability.

Implementing standardized hydrological monitoring for sediment flows and for water quality will provide objective and comparable measures of the success of ecosystem management in the RNA to minimize sediment flows and erosion. Monitoring erosion may be critical for controlling and improving water flows, water quality, and habitat creation and conservation for rare plant species. Soil Loss Monitoring determines routes requiring tread repair, drainage structures, and

signing. Soil Loss Monitoring of this sort will continue with modifications as recommended by the federal and state agencies and following the OHMVR Division standards.

Special Status Plant Species

Inventories described in this document will likely contribute information about species that scientists and managers have little information. The uniqueness and comparative ecological isolation of the CCMA, and especially of the SBMRNA, may have created evolutionary conditions for endemism in non-vascular plants, lichens, fungi, and arthropods parallel to the species endemism for vascular plants.

Strategies for Monitoring Species and Species Group

Many tasks for monitoring species and species groups in the CCMA are in place with grant support from the California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division. Monitoring for amphibians, rare plants, raptor birds, and breeding bird censuses are part of the current CCMA monitoring. New elements for species monitoring are: lichens in the SBM RNA, coast horned lizard throughout the CCMA, bat species, and chaparral bird species.

Monitoring for rare plants focuses on ultramafic-endemic vascular plants. BLM has two types of monitoring and associated research for rare plants. BLM monitors all rare plants listed as threatened or endangered by the US Fish and Wildlife Service and all plants designated by the BLM California State Office as Species of Management Concern. The first priority is for establishing field studies for the San Benito evening-primrose (*Camissonia benitensis*). Complete details of monitoring and field studies for the evening-primrose are part of the Recovery Plan for the San Benito Evening-Primrose.

The second set of vascular plants comprises a monitoring watch list of those species categorized by the California Native Plant Society as Class 4 species. These species are sufficiently rare and thought to be adversely susceptible to disturbances stemming from human activities including vehicle travel, mining, and grazing. BLM staff will track selected populations that natural resource specialists see as particularly susceptible to human-caused disturbances.

Special Status Animal Species

Foothill Yellow-legged Frog

The foothill yellow-legged frog is considered a BLM sensitive species and is a federal species of concern. Although this frog species is declining over its entire range, the populations in the Clear Creek ultramafic streams and riparian habitat appear to be self-sustaining. The foothill yellow-legged frog depends on aquatic and terrestrial habitat; however, it is rarely encountered far from permanent water. Ely (1992) conducted herpetological surveys at CCMA in 1992 (Ely, 1992), and BLM staff developed a monitoring protocol for the foothill yellow-legged frogs in 2001. Additional transects were added to monitoring efforts in 2003, and BLM will conduct the next surveys in May-June, 2004.

South Coast Horned Lizard
In the most southern coastal counties of California, the South Coast horned lizard populations are declining rapidly as urbanization (Fisher et al. 2002) and the non-native Argentine ant (Suarez et al. 2000, 2002) spreads over the range of the lizard.

The herpetological surveys conducted in 1992 recorded sitings of this terrestrial species, however, a formal monitoring plan has not been developed to date. BLM Hollister Field Office will work closely with the BLM El Centro Field Office and the US Geological Survey in developing a monitoring plan. A review of monitoring methods is needed to adapt other horned lizard monitoring protocols from desert and chaparral ecosystems for the forest-chaparral mosaic characteristic of the CCMA. The BLM Hollister Field Office will develop the baseline inventory and monitoring protocol for the coast horned lizard in 2004. Monitoring will start in 2004 and cover the species throughout the CCMA.

Populations of Birds of Special Management Concern
Populations of passerine birds in chaparral and chaparral-forest birds are of particular concern because these habitats are increasingly rare and fragmented. Johnson and Cicero (1985) also note that the high-elevation San Benito Mixed Conifer Forests provide habitat islands for several bird species found nowhere else in the Central Coast Range. Changes in the populations of unusual nesting bird species may be initial indicators that the habitat the conifer forest habitat in the SBM RNA is changing.

At the highest elevations in and around the SBM RNA, BLM will coordinate long-term monitoring for breeding populations of the following species: mountain quail (*Oreortyx pictus*), olive-sided flycatcher (*Contopus cooperi*), gray flycatcher (*Empidonax wrightii*), Hammond's flycatcher (*E. hammondii*),California thrasher (*Toxostoma redivivum*), rufous-crowned sparrow (*Aimophila ruficeps*), Bell's sage sparrow (*Amphispiza belli* spp. *belli*), and black-chinned sparrow (*Spizella atrogularis*). In addition, BLM will continue long-standing monitoring for raptor species and the breeding bird survey in the CCMA.

Rare Bat Species
If researchers find that rare bat species are present in the CCMA based on inventory results, bat biologists will assist BLM in the design of species-appropriate to abandoned mines on BLM lands and monitor seasonally the movements of bat species of management concern around important bat habitats for roosting in abandoned mines and for foraging.

Recreation
BLM rangers have been monitoring trail conditions systematically since 2001 according to the Soil Loss Monitoring Standards established by the Off-Highway Motor Vehicle Recreation Division of the California Department of Parks and Recreation. These standards are currently under review by the Division and the partner federal agencies. As data requirements for OHV trail conditions change, BLM will support changes to conform to regulations.

1.2.3.5 Research and Field Studies

The following types of studies may be undertaken within the RNA and will be addressed in the subsequent RNA management plan:

- Distributions of Heavy Metals and Asbestos and Their Cycling Patterns in the Clear Creek Management Area
- Effects of Chrysotile Asbestos on the Health of BLM Employees and Recreation Visitors to the CCMA
- Tree Seed Collection and Ex Situ Tree Breeding
- Demography of Populations of Conifers / Analysis of Aerial Photographs
- Identification of Invertebrates that Impact Tree Growth
- Reforestation Practices to Restore Logged and Burned Forests on Ultramafic Soils
- Rates of Natural Regeneration of Chaparral Shrub Species on High-Elevation Sites with Ultramafic Soils
- Plant Adaptations to Heavy Metals: Cobalt (Co), Chromium (Cr), Copper (Cu), Mercury (Hg), Nickel (Ni), and Selenium (Se)
- Invasions by Non-Native Plants and Animals: Ecosystem Resistance and Management Response for Control on Ultramafic and Non-Ultramafic Soils

1.2.3.6 Ecosystem Modeling

One of the most important elements of land management is ecosystem modeling. Computer-based models are important to management because they incorporate knowledge and data to approximate future outcomes, within intervals of error and defined risks. As new information from inventories, monitoring, and research become available, BLM resource managers adapt models of the Clear Creek Management Area to reflect these new findings. In this way, modeling becomes a catalyst for changes to improve land management.

Depending on the environmental and social concerns of people, the store of predictive models for the Clear Creek Area can be quite large. Based on the topics covered thus far, the following four models are a few of key models that researchers and managers could develop or adapt for simulating future conditions in the CCMA resulting from a program of management actions:

Model 1. Modeling Natural and Human-Initiated Risks to Long-Term Viability for Species of Management Concern, with special reference to the San Benito evening-primrose;

Model 2. Modeling Air Quality Impacts in the CCMA under Alternate Management Scenarios, with special reference to the transport of air-borne asbestos, mercury, nitrogen- and sulfur-based gases, and ozone;

Model 3. Modeling Soil Movement in the CCMA under Alternate Management Scenarios, with reference to the frequency and severity of naturally occurring and human-facilitated erosion; and

Model 4. Modeling the Development of Forest Vegetation on San Benito Mountain and Changes in the Animal Species Populations, under different interacting scenarios of global (climate change) to local (recreation) impacts.

1.2.3.7 Partnerships

Funding for science at BLM to improve land management has not been a fiscal priority in the recent past. BLM cannot depend on internal funding to initiate or support many of the elements of the Science Agenda. Without investment, tasks for inventories, monitoring protocols, and field research in the San Benito Mountain Research Natural Area may proceed slowly.

The BLM Hollister Field Office staff, and especially its natural resource and recreation specialists, can contribute their time and other in-kind services to scientists and researchers who wish to conduct research. The Field Office staff can continue to foster a setting of engaged inquiry with scientists and researchers at the many government agencies and universities located in the counties that surround the Clear Creek Management Area.

One important step to facilitating environmental studies in the CCMA has been assistance agreements and memoranda of understanding between the BLM California State Office and the University of California and California State University systems, established in 2003. At present, the BLM works with the California state natural resource agencies and other federal agencies to collaborate on joint watershed planning. Such efforts improve lines of communications between BLM employees and interested scientists from regulatory and research agencies and universities.

In the course of researching and preparing the Science Agenda for the SBMRNA, the BLM Hollister Field Office staff found the institutions listed below active in research that is occurring directly in the CCMA or bearing directly on the management issues of the CCMA. The BLM commits itself to working to promote the research work of these institutions in the CCMA and to expanding the roster of institutions involved. By promoting science in the CCMA, BLM promotes improvement of its own management to remain responsive to social and environmental needs for sustainable and robust ecosystems.

<u>Educational Institutions</u>
University of California: Berkeley, Davis, Santa Cruz
California State University System: San Francisco, San Jose, Stanislaus
Stanford University
University of Utah

<u>California State Agencies</u>
Department of Fish and Game
Department of Forestry and Fire Prevention
Department of Parks and Recreation, Off-Highway Vehicle Recreation Division
Department of Water Resources (Water Resources Board)

US Federal Agencies
Environmental Protection Agency
National Science Foundation
US Department of Agriculture, Forest Service, Pacific Northwest Research Station, Forestry Inventory and Analysis Program
US Department of Agriculture, Forest Service, Pacific Southwest Research Station, Institute of Forest Genetics
US Department of Agriculture, Natural Resource Conservation Service
US Department of Energy
US Department of the Interior, Geological Survey, Western Ecological Studies Center

Governmental Organizations Outside the United States
Canadian Geological Survey

Non-Governmental Non-Profit Agencies
California Native Plant Society
Southern California Gem Society
Peninsula Gem Society
Point Reyes Bird Observatory

1.2.4 Fire Management

Fire objectives will closely approximate the historical and natural fire regime. Any fire that occurs in the RNA will be followed by monitoring until the area once again approximates its former condition.

Characteristics
This Fire Management Unit (FMU) consists of an area with bald hills which are naturally barren because of serpentine derived soils. The elevations of this FMU range from 2000 feet to over 5000 feet. The highest peak in the FMU is San Benito Mountain, a part of the Diablo Mountain Range, at 5,241 feet. Steep, barren slopes with extremely erosive soils are surrounded by brush-covered slopes, with occasional rock outcrops. The vegetation is unique and valuable for its contributions to science and for its natural beauty. Conifer forests within the FMU also comprise a unique vegetation community.

This FMU supports several sensitive plant species (serpentine endemics), most notably the San Benito evening primrose (*Camissonia benitensis*) and rayless layia (*Layia discoidea*). Both plants are annual and appear only in years of favorable precipitation. The evening primrose has been found in only a few locations – one in the San Benito Mountain Natural Area. It has been listed federally endangered. The rayless layia has a somewhat more widespread distribution. Talus fritillary (*Fritillaria falcata*), also a sensitive plant, occurs in one location on San Benito Mountain. *Pentachaeta exilis aeolica* may also occur in this FMU; this plant is exceedingly rare and its habitat is mainly grasslands off the serpentine area.

Fire History

Fire history for the SBM RNA may be characterized as one of minimal to infrequent fires, as a result of low fuel loads on the serpentine soils and barren landscape. Fire starts are predominantly lightning caused, but the potential for human caused fires exists. Brush fields on north slopes could pose a potential for extreme fire behavior. Fire use and prescribed fire have been used in the past to maintain and promote uneven-aged brush fields to natural conditions.

Fire Management Objectives

- Manage the habitat for threatened and endangered species of plants and animals to maintain viable populations in their natural ecosystems.
- Maintain air quality to meet or exceed applicable federal and state standards and regulations.
- Promote natural conditions within plant communities of the RNA.
- Restore and maintain the structures, species composition, and processes of native ecological communities and existing ecosystems
- Use fire to restore and/or sustain ecosystem health base on sound scientific principles and information, balanced with other societal goals, including public health and safety, and air quality.

Management Emphasis – T&E Plants and Sensitive Plants:

1) Protect potential habitat for special status plant species and the Southern Ultramfic Jeffery pine forest.
2) Provide mosaic of seral stages.
3) Improve native plant community diversity and structure.
4) Provide habitat for a number of natives.

Suppression Objectives:

1) The use of retardant drops and heavy equipment (dozers) is acceptable in the initial attack to keep the fire small as possible. A resource advisor from the Hollister Field Office must be notified before any retardant drops from aircraft.
2) Fire will be managed for the protection of sensitive resource values. Protect the conifer forest and serpentine chaparral – this seems to repeat management emphasis #1 above.
3) Keep the maximum individual fire size to ten acres.

4) Use existing roads and natural barriers as the preferred method for containment and control of wildfire in the FMU.

5) The Monterey Air Board must be notified when any earth disturbance activities occur to conform to the Air Toxic Control Measures (ATCM).

6) The potential for the BLM to inherit the wildfire after the first 24 hours of suppression may be possible if objectives are not being met in accordance with the RMP and FMP.

Fire Use and Prescribed Fire Objectives:

1) Burn 10 to 100 acres a year on a rotational basis (on a 10-year rotation). Specific seasonal timing, patch size, yearly total and rotational time for chaparral type fuel is to be coordinated with resource personnel.

2) Fuels treatment may be considered as needed by a site-specific plan. Allow the use of prescribed fire to promote natural conditions.

3) Use prescribed fire, wildland fires, and mechanical and chemical treatments to protect and maintain rare, threatened, and endangered (RTE) plants and habitat, chaparral components important to wildlife, and the spread of invasive plants.
4) Construct hand line and natural fuel breaks as for control lines and firing.

5) Protect and enhance the conifer forest within the RNA. What does this mean?

6) All local and state air quality objectives will be met prior to ignition of prescribed fires.

Post Fire Rehabilitation and/or Restoration Objectives:

1) Initiate post-fire rehabilitation and restoration to re-establish quickly the RTE plants and chaparral and annual grasses important to wildlife.
2) Prevent soil erosion and flooding by outfitting fireline and fuel breaks with water bars.

3) Monitoring and evaluate ecological effects from fire. (For example, the unwanted introduction and spread of invasive plants and weeds).

4) Reseed with stock from local native plants in appropriate sites for species or use straw bales to trap seed and hold water at seed germination sites.

Restoration and rehabilitation will emphasize the reestablishment and perpetuation of RTE species, habitat diversity for a number of natives and improve the native plant community diversity and structure.

Fire Management Strategies:

- Use of Appropriate Management Response (AMR) to manage all fires for management objectives and based on current conditions and fire location.

- Prevent wildland fires from spreading to private land and the repeater tower site on San Benito Mountain.

- The use of aerial application of fire retardant and the use of natural barriers is the choice for containment.

- Restore and Rehabilitate fire suppression lines created during fire suppression efforts in a timely manner to prevent erosion. Straw may be used on areas with soil disturbance to learn more about the effects from fire suppression efforts.

Implement the full range of wildland fire fuels management practices, including prescribed fire, chemical, biological, and cultural treatments that will move all affected landscapes toward desired future condition as described in the RMP. BLM's appropriate management response (AMR) will address areas where plant communities are at high risk due to current conditions or other ecological constraints. AMR strategies will address critical habitat for wildlife, T&E species, areas of soil instability, and preservation of cultural resources. Use AMR to prevent wildland fires from spreading to private and other agency lands. All fires occurring at Fire Intensity Levels (FIL) 1 through 3 will be suppressed at <100 acres 90% of the time. All fires occurring at FIL 4-6 will be suppressed at <10 acres 75% of the time. Once the decadal burn target has been reached of 300 acres, from either planned or unplanned ignitions, a review of objectives and strategies will lead to new suppression criteria on all wildland fires. Predominate fire cause will more likely be caused by humans and/or possible lightning with size class A through D.

The appropriate management response is to prevent wildland fires from spreading to private land and to the repeater tower location on San Benito Mountain. Suppression is coordinated between BLM and CDF. The FMU is within Local Responsibility Area where the State provides direct protection under contract with the agency. But because of asbestos in the FMU, CDF will not enter the SBM RNA, but rather take up a support function outside of the FMU, to prevent further spread of wildfire. If resources are needed for suppression within the FMU, local red carded firefighters with hazardous asbestos health and safety training and other required training can enter the asbestos area. Additional resources will also need the proper training if extended fire suppression is required. Aerial application and the use of natural barriers is the choice for containment within the FMU. This FMU has very limited accessibility by land.

Wildland Fire Use

Wildland fire use for resource benefit is a fire management option within this FMU. Allow wildland fire use to promote natural conditions [which are?]. Established natural barriers may be able to hold fire within certain areas, depending on time of year, fuel loading, weather, location, and firefighting resources on hand, and if safety concerns have been addressed and mitigated.

Refer to the section on Fire Management in the San Benito Natural Area in the Hollister Fire Management Plan.

1.2.5 Recreation Access

Recreation and access will be fully addressed in the subsequent RNA management plan, using the Recreation Opportunity Spectrum (ROS) process, consistent with RNA management objectives. This process will identify recreation activities to be managed or discouraged in the RNA, including:

OHV touring
Competitive Events
Commercial Activities (e.g., filming, outfitters)
Camping
Educational Field Trips
Hiking
Hunting
Target Shooting
Equestrian Trail Rides
Mountain Bicycling
Rock Hounding
Bird/Wildlife Viewing
Botanizing

1.3 MONITORING

The following monitoring methods will be continued and/or developed and implemented to fulfill the aforementioned goals and objectives. Additional biological and abiotic monitoring will be and assessed and implemented as a result of adaptive management.

1) Continue to collect data on San Benito evening-primrose (*Camissonia benitensis* (CABE)) from the known populations within the SBMRNA. The monitoring data will enable the BLM assess the recovery and habitat condition of this federally threatened plant species. Ongoing consultation with the US Fish and Wildlife Service will continue.

BLM will continue to fulfill its responsibilities for species recovery under the Federal Endangered Species Act.

Monitoring: BLM compliance with stipulations for managing the San Benito evening-primrose from the US Fish and Wildlife.

Monitoring: Public Compliance with Regulations and with BLM's Protection Measures Concerning Habitats for the San Benito evening-primrose.

Objectives:
This monitoring program documents in a systematic and repeatable way what type and intensity of disturbance occurs on potential and occupied habitats of *Camissonia benitensis* on a monthly basis during the use season (Oct-Apr) and bimonthly (May-Sep) outside of the primary use season. With this documentation, BLM can be accountable as to when inspections were made, what was found on the ground, what was done in response, and when corrective measures were taken.

First, BLM monitors public compliance at known sites for San Benito evening-primrose.

Second, BLM monitors the effectiveness of its measures to protect the species and its habitats with informational signs, fences, and pipe barriers to reduce disturbances caused by motorcycles and other vehicles in San Benito evening-primrose habitats. Inspection of protection measures shall occur on a weekly basis. The BLM and the US Fish and Wildlife Service designed a monitoring program (BLM, 1998) that conforms to the recent "no-jeopardy" biological opinion from the Service.

Third, BLM monitors the frequency of disturbances to evening-primrose habitats from landslides, flooding and other natural events.

Fourth, this monitoring also documents the Bureau's responsiveness (implementation monitoring) to these findings.

Monitoring Protocol Methods and Materials:
BLM natural resource specialists and volunteers inspect each known site in sufficient detail to determine whether change, either human-caused or natural, has occurred since the last inspection. The time needed at each potential habitat site varies by site size, its distance from a designated route, and the integrity around the perimeter of the habitat patch. Depending on the weather conditions and water level in Clear Creek, inspections take from less than five minutes to 120 minutes per site. One BLM employee working two days each month can complete compliance and effectiveness monitoring each month. Monitoring is possible in one day if BLM employees use a motorcycle or quad-runner to reduce transit time between polygons.

The protocol considers a human-caused disturbance within an area closed to the public or otherwise protected from motorized travel from a recreation visitor an instance of non-compliance, and is recorded for future management decisions. Non-compliant events vary in type, number and severity.

At each site during each visit an observer must:

- *Review tables for changes or unfinished recommendations*
- *Compare the site to the base map*
- *Check trails for use*
- *Check for new trails*
- *Check that signs are in place*
- *Check for use impacts in habitat*

- *Check for barrier damage (including tampering)*
- *Obscure tracks to establish baseline for the next inspection*
- *Identify impacts by location, type and severity*
- *Retake reference photos pre- and post-use season*
- *Check for sediment or erosion impacts to habitat*
- *Photograph impacts when warranted*

Each habitat site for *C. benitensis* is unique, and therefore, the inspection requires different strategies. If physical barriers are present at a site, BLM employees inspect the barriers to look for obvious breaks and to see whether people have moved barriers to hide the tampering. Cover-ups are the most difficult type of user non-compliance to detect quickly. However, because of the detailed notes available on track numbers and locations, BLM employees usually detect these kinds of infractions even when an attempt to obscure vehicle tracks is made.

<u>Adaptive Management in Response to Compliance and Effectiveness Monitoring for the San Benito Evening Primrose</u>

This monitoring tests the efficacy of recommended protective measures, detects gaps in protection, and report gaps in the protection of *C. benitensis* habitat. In areas where data collection shows that people have driven vehicles across habitat areas, BLM resource specialists respond with measures to reduce damage and reinforce public compliance.

Every two months the BLM Hollister Field Office reports on the findings from monitoring the *C. benitensis* habitats and on the management responses to prevent illegal damage to plants and their habitats. The degree of compliance with BLM regulations and with BLM management measures to protect the evening-primrose sets up structure for adaptive management of the RNA. One aspect of adaptive management for the benefit of the San Benito evening-primrose is to create habitat suitable for the species at sites where habitat does not currently exist. Creation of new habitat will be a hedge against loss of original habitat and reduce the risk of extinction of a plant subpopulation in the event of a rare event such as a flood.

Monitoring Population Counts of the San Benito Evening-primrose
Population monitoring is improving understanding of the status, distribution and habitats of this species (Taylor 1992 and 1995, BLM 1997). In addition to the plant inventory, botanists documented the descriptions of habitat and threats to potential habitats and occupied occurrences.

- number of known / historic / extant / potential habitat sites
- pattern of distribution (patchy, ephemeral, scale, habitat shape)
- time since last observed
- status of populations at sites of known habitats annually (counts, biomass)
- quality of sites: frequency, intensity, and extent of natural and human disturbances
- portion of potential habitat as occupied: annually, short-term, long-term
- measures of connectivity of habitat and of genetic composition
- population trend
- presence of pollinators / fecundity / viability of seed

2) Continue to monitor known locations, and increase inventory efforts, of all sensitive plant and animal species that occur within the SBMRNA (Appendix F).

These special status plants are include the rayless layia (*Layia discoidea*), talus fritillary (*Fritillaria falcata*), San Benito fritillary (*Fritillaria viridea*), twolobe spineflower (*Chorizanthe biloba* var. *immemora*), slender pentachaeta (*Pentachaeta exilis* ssp. *aeolica)*, and coast range false bindweed (*Calystegia collina venusta*).

Monitoring Objectives
This monitoring program for rayless layia documents in a systematic and repeatable way: the status of human and natural disturbance on known *L. discoidea* populations and its potential and occupied habitats; and the pattern of appearance of plants in known occupied habitat.

Management Response Based on Monitoring
Management prescriptions for *L. discoidea* are consistent with management for *C. benitensis* Further research regarding site characteristics for *L. discoidea* and *C. benitensis* is critical to gain an understanding of each species' ecological requirements. Based on monitoring results, adaptive management will determine actions and protection measures for all sensitive plant species within the RNA. In areas of high use or where continued non-compliance occurs, fences are constructed for added protection.

Monitoring for special status animal species will include the foothill yellow-legged frog and South Coast horned lizard. BLM staff developed a monitoring protocol for the foothill yellow-legged frogs in 2001. Additional transects were added to monitoring efforts in 2003. BLM will conduct annual surveys for this species. Herpetological surveys conducted in 1992 recorded sitings of the South Coast horned lizard. However, a formal monitoring plan has not been developed to date. BLM Hollister Field Office will work closely with the BLM El Centro Field Office in developing a monitoring plan. The El Centro Field Office has taken the lead in multi-agency monitoring across the range of the rare flat-tailed horned lizard (*P. mcallii*). A review of monitoring methods is needed to adapt other horned lizard monitoring protocols from desert and chaparral ecosystems for the forest-chaparral mosaic characteristic of the CCMA.

3) Soil Loss Monitoring

BLM staff has been monitoring trail conditions systematically since 2001 according to the Soil Loss Monitoring Standards established by the Off-Highway Motor Vehicle Recreation Division of the California Department of Parks and Recreation. These standards are currently under review by the Division and the partner federal agencies. As data requirements for OHV trail conditions change, BLM will support changes to conform to regulations. Soil loss monitoring in the RNA will continue on designated routes in accordance with State soil loss guidelines. Based on this survey, routes requiring tread repair, drainage structures, and use signing are identified for further investigation and correction by resource and implementation staff.

As trail or barren conditions relate to undesired erosion rates, BLM will install silt fences to monitor for sources of erosion. BLM will close and reconfigure trails when trails are the cause

of erosion. Highest priority trails are those that are in the immediate vicinity of populations of the San Benito evening-primrose. Second priority for BLM is those trails that cross known habitats of BLM species of management concern. Third priority of concern is those OHV trails that cross potential habitats of BLM species of management concern.

4) Continue breeding bird and nest surveys in the SBMRNA.

The high-elevation San Benito Mixed Conifer Forests provide habitat islands for several bird species found nowhere else in the Central Coast Range. Changes in the populations of nesting bird species may be initial indicators that the habitat the conifer forest habitat in the SBMRNA is changing.

Chaparral bird species as indicators of large-scale environmental change are as follows: California thrasher (*Toxistoma redivivum*), rufous-crowned sparrow (*Aimophila ruficeps*), Bell's sage sparrow (*Amphispiza belli* spp. *belli*), and black-chinned sparrow (*Spizella atrogularis*). These four species are key indicator bird species nominated by the Point Reyes Bird Observatory for the California Partners In Flight Program for bird conservation (Lovio et al., 2003). At the highest elevations in and around the SBMRNA, BLM will coordinate long-term monitoring for breeding populations of the following species: mountain quail, olive-sided flycatcher (*Contopus cooperi*), gray flycatcher (*Empidonax wrightii*), and Hammond's flycatcher (*E. hammondii*).

In addition, BLM will continue long-standing monitoring for raptor species and the breeding bird survey in the CCMA.

5) Inventory and monitor the San Benito Mountain conifer forest to gain an understanding of the demography and health of the populations.

6) Monitor and develop protocol to eradicate and control invasive plant and animal species.

7) Design and implement habitat restoration plan to obscure and/or rehabilitate closed trails and to measure and control erosion.

8) Continue ORV compliance monitoring and increase enforcement as necessary to halt unauthorized vehicle use in the SBMRNA.

Law enforcement officers from BLM and from the Sheriff's Departments of Fresno and San Benito Counties check regularly for compliance among OHV recreation visitors to the CCMA. All BLM law enforcement and park rangers have training in monitoring OHVs for compliance with California State Standards for Noise. Monitoring for noise is ongoing and is an integral part of the workload for rangers.

Information about the spectrum of visitors to the CCMA is of poor quality. BLM needs much more information about the people who are visiting the Area because their thoughts and opinions about BLM services for the Area can guide resource and recreation management. Also, demographic information from visitors and from nearby residents can help BLM plan better for future changes in recreation management. Another aspect for monitoring is remote sensing with

electronic counters to record numbers of vehicles at major entrance points and selected locations. This visitation information is important in understanding recreation use patterns and in developing strategies to address recreation use demand

9) Develop a monitoring plan for all fire management projects for the SBMRNA.
10) Develop a barren monitoring plan that will enable BLM staff to understand the biologic crust and implement management actions to control erosion rates and sediment delivery from serpentine barrens.

Monitoring rates of soil formation and erosion in areas with naturally occurring processes and in areas impacted by human use, can combine over time to provide a watershed-scale model of net amounts of sediment flows and changes to stream channel morphology. Both sediment flows and stream morphology are critical factors for shaping and transforming land areas in ways that affect populations of rare plants such as the San Benito evening-primrose.

One easy way to measure soil erosion is to establish silt fences at key sites of barren related erosion. These fences can measure changes to sites, especially near habitats for the San Benito evening-primrose, and provide verification for needed restoration throughout the RNA. When indicated by Soil Loss Monitoring protocol done in connection with the California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division, BLM may establish silt fences at barren erosion sites in tandem with restoration projects to document the effectiveness of intended improvements. Monitoring erosion throughout sub-watersheds of the RNA may be critical for minimizing sediment flows, improving water flows and water quality, and habitat creation and conservation for rare plant species.

1.4 ALLOWABLE USES

Uses inconsistent with the preservation of the values for which the RNA was designated will not be allowed. Allowable uses will be addressed in detail in the subsequent RNA management plan. Allowable uses identified in this document will guide management of the RNA in the interim.

The following uses will be allowed:

- Educational tours;
- Research – require written authorization;
- Existing rights-of-way, easements, and real estate permits;
- Motorized and mechanized vehicle use on designated open routes;
- Native American access – written authorization if beyond the scope of allowable uses;
- Prescribed fire – to preserve the desired characteristics of the RNA;
- Hiking on marked and designated trails.

The following uses will not be allowed:

- Camping
- Hunting/target shooting
- Special Recreation Permit events except on R011 (Spanish Lake Road)
- Geo-caching
- Paintball
- Hang-gliding
- Wood-fueled campfires
- Plant or animal collection
- Collection of cultural resources
- Wood collection
- Metal detectors
- Grazing
- Timber harvest

The above restrictions apply to recreational use only and may be allowable for research projects. This list is not all-inclusive and any uses not specifically authorized are restricted. Activities involving organized groups or commercial activities will need written authorization.

All uses will be in accordance with 43 CFR 8223.1

A) No person shall use, occupy, construct, or maintain facilities in a research natural area except as permitted by law, other Federal regulations, or authorized under provisions of 43 CFR 8223.

B) No person shall use, occupy, construct, or maintain facilities in a manner inconsistent with the purpose of the research natural area.

C) Scientists and educators shall use the area in a manner that is non-destructive and consistent with the purpose of the research natural area.

CONFORMITY ANALYSIS CERTIFICATION

PROJECT NAME: Clear Creek Plan Amendment
PROJECT LOCATION: Southern Portion of San Benito County and Western Fresno County, CA, (Case File -)
Fresno County, CA – PM-2.5 nonattainment
Fresno County, CA – Serious PM-10 nonattainment
Fresno County, CA – Serious 8-hr Ozone (NOx/VOC) nonattainment

PROJECT DESCRIPTION: Establish or revise designations of areas and trails for off-road vehicles

POTENTIAL TOTAL (DIRECT AND INDIRECT) EMISSIONS (tons/year):

Carbon monoxide (CO):	[Not applicable-attainment]	n/a
Lead (Pb):	[Not applicable-attainment]	n/a
Nitrogen oxides (NO_x):	[Not applicable-de minimis]	0.6 tons/year
Particulate Matter (PM_{10}):	[Not applicable-de minimis]	66.5 tons/year
Particulate Matter ($PM_{2.5}$):	[Not applicable-de minimis]	10.0 tons/year
Sulfur dioxide (SO_2):	[Not applicable-attainment]	n/a
Volatile Organic Compounds re: Ozone (O_3):	[Not applicable-de minimis]	0.6 tons/year

MAXIMUM MODELED IMPACT ($\mu g/m^3$):

Carbon monoxide (CO):	[Not applicable-attainment]
Lead (Pb):	[Not applicable-attainment]
Nitrogen dioxide (NO_2):	[Not applicable-attainment]
Particulate Matter (PM_{10}):	[Not applicable-de minimis]
Particulate Matter ($PM_{2.5}$):	[Not applicable-de minimis]
Ozone (O_3):	[Not applicable-de minimis]
Sulfur dioxide (SO_2):	[Not applicable-attainment]

THIS PROJECT HAS BEEN DETERMINED TO CONFORM WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL AIR QUALITY LAWS, REGULATIONS AND STATUTES, AS DEFINED IN THE San Joaquin Valley, CA (Fresno County) Planning Area IMPLEMENTATION PLAN(s), FOR THE FOLLOWING REASON(s):

[ ] Action is covered within the approved Implementation Plan.
[ ] Action is excluded by the Regulatory Authority per:
[ ] Action is categorically excluded per (citation):
[X] Potential total emissions are below *de minimis* levels: Per 40 CFR 93.153(b)(1) <50 T/Y NOx ; <50 T/Y VOC (Serious Ozone NAA); <70 T/Y PM-10 (Serious PM-10 NAA); and <70 T/Y PM-2.5 (PM-2.5 NAA)
[ ] Potential total emissions are fully offset by:
[ ] Maximum modeled impacts are below applicable standards:
[X] Other (specify): Subject to implementation per December 6, 2005 Fresno County, California, Clear Creek Management Area Emission Spreadsheet and Assumptions.

SIGNED: _____

TITLE: Hollister Field Office Manager

DATE: December 12, 2005

Fresno County, California, Clear Creek Management Area Emission Spreadsheet and Assumptions (December 6, 2005)

Citation: Archer, S.F. 2005. Microsoft Excel © Spreadsheet Estimate of Total and Fresno County Emissions by Alternative - Clear Creek Management Area EIS. BLM-National Science and Technology Center. Denver, Colorado. (See file: 051206_CCMA_Emissions)

Summary Table:

Total Annual	ALT A	ALT B	ALT C	ALT D
	TPY	TPY	TPY	TPY
NOx	1.7	1.7	1.7	1.7
PM-2.5	28.4	28.1	28.3	27.4
PM-10	190.0	188.0	189.0	183.0
TSP	488.9	483.3	486.0	470.9
VOC	1.7	1.7	1.7	1.7

Fresno Co. Annual	ALT A	ALT B	ALT C	ALT D
	TPY	TPY	TPY	TPY
NOx	0.6	0.6	0.6	0.6
PM-2.5	10.0	9.9	9.9	9.6
PM-10	66.5	65.8	66.2	64.1
TSP	171.1	169.2	170.1	164.8
VOC	0.6	0.6	0.6	0.6

Note: Assumes 35 per cent of Total Emission would occur within Fresno County (CA) nonattainment areas.

Note: Alternative A is Preferred Alternative.

VOC and NOx Emission Estimates:

ATV HC+NOx Ef (gm/km) = 1.5
Source: 40 CFR 1051.107

SUV NMHC Ef (gm/mi) = 0.31
SUV NOx Ef (gm/mi) = 0.6
Source: EPA 2000

MC HC+NOx Ef (gm/km) = 2.0
Source: 40 CFR 1051.105

	Total	Winter	Summer
	VMT	VMT	VMT
ATV	111180	67820	43360
SUV	96511	58872	37639
MC	864738	527490	337248

Note: VMT estimates were assumed to remain constant regardless of management Alternative

Total	ALT A	ALT B	ALT C	ALT D
Annual	TPY	TPY	TPY	TPY
NOx	1.746	1.746	1.746	1.746
VOC	1.715	1.715	1.715	1.715

Note: ATV and MC emission were assumed to be equally distributed between NMHC and NOx
Note: VOC emission were assumed to be equivalent to NMHC and/or HC

Reference:

EPA. 2000. "California Certifiction Exhaust Emission Standards for Light-Duty Vehicles (Passenger Cars) and Light-Duty Trucks: Federal Test Procedure (FTP) - LDT1 10 Years/100,00 Miles" EPA420-B-00-001. February 2000. Research Triangle Park, NC. Available online at: http://www.epa.gov/otaq/cert/veh-cert/b00001f.pdf

Unpaved Road Emission Factors:

Ef (lbs/VMT) = $[(k) \times (s/12)^a \times (S/30)^d / (M/0.5)^c] - C$

Source: EPA 2003

Constants	PM-2.5	PM-10	TSP
k =	0.27	1.8	6.0
a =	1	1	1
d =	0.5	0.5	0.3
c =	0.2	0.2	0.3
C =	0.00036	0.00047	0.00047

Assumptions	ATV	SUV	MC
S =	10	10	15
W =	0.3	2.5	0.2
w =	4	4	2

Where:

s = silt (%)

S = vehicle speed (mph)

M = soil Moisture (%)

C = excess exhaust/brake/tire PM (lbs/VMT)

Where:

S = vehicle speed (mph)

W = vehicle weight (tons)

w = number of wheels

Soil moisture data source: NWS 2003

Precipitation correction factor

$Pcf = (d_t - d_{\geq 0.01in}) / (d_t)$

Where:

d_t = total number of days in season

$d_{\geq 0.01in}$ = days in season with ≥ 0.01 in precipitation

	Winter	Summer
d_t =	181	184
$d_{\geq 0.01in}$ =	42	6
Pcf =	0.77	0.97

Vehicle weight correction factor

$Wcf = (W/3)^{0.45}$

	ATV	SUV	MC
Wcf =	0.35	0.92	0.30

Precipitation data source: WRCC 2003

Unpaved Road Emission Factors (continued):

PM-2.5		Winter	Winter	Winter	Winter	Summer	Summer	Summer	Summer
		Soil	ATV	SUV	MC	Soil	ATV	SUV	MC
Soil Unit	Silt %	Moist %	lbs/VMT	lbs/VMT	lbs/VMT	Moist %	lbs/VMT	lbs/VMT	lbs/VMT
742	30.7	40.0	0.04514	0.11719	0.04608	28.0	0.06107	0.15857	0.06235
744	36.1	40.0	0.05309	0.13785	0.05420	28.0	0.07184	0.18652	0.07333
757	25.8	40.0	0.03792	0.09845	0.03871	28.0	0.05131	0.13321	0.05238
758	17.8	40.0	0.02613	0.06784	0.02668	28.0	0.03536	0.09180	0.03611
761	18.0	40.0	0.02642	0.06861	0.02698	28.0	0.03576	0.09284	0.03651
765	28.0	40.0	0.04116	0.10686	0.04202	28.0	0.05569	0.14459	0.05685
767	31.9	40.0	0.04691	0.12178	0.04788	28.0	0.06346	0.16478	0.06479
768	8.1	40.0	0.01184	0.03073	0.01210	28.0	0.01602	0.04160	0.01637
769	7.6	40.0	0.01110	0.02882	0.01135	28.0	0.01503	0.03901	0.01536
770	38.6	40.0	0.05678	0.14742	0.05796	28.0	0.07682	0.19945	0.07842
773	17.4	40.0	0.02554	0.06631	0.02608	28.0	0.03456	0.08973	0.03529
774	16.6	40.0	0.02436	0.06325	0.02488	28.0	0.03297	0.08559	0.03366

PM-10		Winter	Winter	Winter	Winter	Summer	Summer	Summer	Summer
		Soil	ATV	SUV	MC	Soil	ATV	SUV	MC
Soil Unit	Silt %	Moist %	lbs/VMT	lbs/VMT	lbs/VMT	Moist %	lbs/VMT	lbs/VMT	lbs/VMT
742	30.7	40.0	0.30144	0.78266	0.30764	28.0	0.40781	1.05884	0.41620
744	36.1	40.0	0.35449	0.92038	0.36177	28.0	0.47957	1.24516	0.48943
757	25.8	40.0	0.25331	0.65768	0.25852	28.0	0.34270	0.88977	0.34975
758	17.8	40.0	0.17472	0.45365	0.17833	28.0	0.23638	0.61374	0.24126
761	18.0	40.0	0.17669	0.45875	0.18033	28.0	0.23904	0.62064	0.24397
765	28.0	40.0	0.27492	0.71379	0.28057	28.0	0.37193	0.96568	0.37958
767	31.9	40.0	0.31323	0.81326	0.31967	28.0	0.42376	1.10024	0.43247
768	8.1	40.0	0.07944	0.20625	0.08109	28.0	0.10748	0.27906	0.10971
769	7.6	40.0	0.07453	0.19350	0.07608	28.0	0.10084	0.26181	0.10293
770	38.6	40.0	0.37904	0.98414	0.38683	28.0	0.51280	1.33142	0.52333
773	17.4	40.0	0.17079	0.44345	0.17432	28.0	0.23107	0.59994	0.23583
774	16.6	40.0	0.16294	0.42304	0.16630	28.0	0.22044	0.57234	0.22498

Unpaved Road Emission Factors (continued):

TSP		Winter	Winter	Winter	Winter	Summer	Summer	Summer	Summer
		Soil	ATV	SUV	MC	Soil	ATV	SUV	MC
Soil Unit	Silt %	Moist %	lbs/VMT	lbs/VMT	lbs/VMT	Moist %	lbs/VMT	lbs/VMT	lbs/VMT
742	30.7	40.0	0.80782	2.09740	0.76016	28.0	1.13255	2.94052	1.06574
744	36.1	40.0	0.94993	2.46638	0.89389	28.0	1.33178	3.45782	1.25322
757	25.8	40.0	0.67886	1.76258	0.63882	28.0	0.95176	2.47112	0.89561
758	17.8	40.0	0.46832	1.21594	0.44070	28.0	0.65659	1.70475	0.61786
761	18.0	40.0	0.47358	1.22961	0.44565	28.0	0.66397	1.72391	0.62481
765	28.0	40.0	0.73676	1.91291	0.69330	28.0	1.03293	2.68187	0.97199
767	31.9	40.0	0.83940	2.17939	0.78988	28.0	1.17682	3.05548	1.10740
768	8.1	40.0	0.21304	0.55314	0.20049	28.0	0.29870	0.77553	0.28109
769	7.6	40.0	0.19988	0.51898	0.18810	28.0	0.28025	0.72763	0.26373
770	38.6	40.0	1.01572	2.63720	0.95580	28.0	1.42402	3.69731	1.34001
773	17.4	40.0	0.45779	1.18861	0.43080	28.0	0.64183	1.66643	0.60397
774	16.6	40.0	0.43674	1.13395	0.41098	28.0	0.61231	1.58980	0.57620

References:

EPA. 2003. Compliation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: *Stationary Point and Area Sources*; Chapter 13, Miscellaneous Sources; 13.2.2 Unpaved Roads. December, 2003. Research Triangle Park, NC. Available online at: http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0202.pdf

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Western Regional Climate Center (WRCC). 2003. Historical Climate Information: Priest Valley, California (047150); 1948 to 2003. Reno, NV. Available online at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?caprie+sca

VMT by Soil Unit by Alternative:

	Total	Winter	Summer
	VMT	VMT	VMT
ATV	111180	67820	43360
SUV	96511	58872	37639
MC	864738	527490	337248

Note: VMT estimates were assumed to remain constant regardless of management Alternative

Fractional Use By Soil Unit	ALT A	ALT A	ALT A	ALT B	ALT B	ALT B	ALT C	ALT C	ALT C	ALT D	ALT D	ALT D
	ATV	SUV	MC	ATV	SUV	MC	ATV	SUV	MC	ATV	SUV	MC
	VMT	VMT	VMT	VMT	VMT	VMT	VMT	VMT	VMT	VMT	VMT	VMT
742	0.000	0.008	0.009	0.000	0.005	0.015	0.000	0.001	0.010	0.005	0.028	0.010
744	0.073	0.063	0.044	0.072	0.059	0.038	0.074	0.063	0.047	0.121	0.081	0.048
757	0.000	0.006	0.007	0.000	0.005	0.008	0.000	0.005	0.007	0.005	0.004	0.011
758	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.006	0.000	0.001
761	0.036	0.034	0.037	0.035	0.036	0.039	0.036	0.034	0.033	0.032	0.038	0.053
765	0.209	0.246	0.276	0.211	0.347	0.275	0.211	0.342	0.283	0.171	0.270	0.247
767	0.569	0.414	0.494	0.571	0.266	0.487	0.568	0.252	0.502	0.433	0.254	0.455
768	0.028	0.060	0.028	0.027	0.070	0.026	0.028	0.067	0.030	0.030	0.069	0.031
769	0.077	0.088	0.081	0.076	0.167	0.079	0.078	0.144	0.069	0.085	0.142	0.099
770	0.000	0.030	0.000	0.000	0.032	0.012	0.000	0.035	0.000	0.044	0.032	0.010
773	0.000	0.020	0.006	0.000	0.008	0.005	0.000	0.026	0.006	0.016	0.022	0.006
774	0.007	0.030	0.017	0.007	0.005	0.015	0.005	0.031	0.012	0.052	0.060	0.029
TOTAL	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

VMT by Soil Unit by Alternative (continued):

ALT A Soil Unit	Full Year Total VMT	Winter Total VMT	Winter ATV VMT	Winter SUV VMT	Winter MC VMT	Summer Total VMT	Summer ATV VMT	Summer SUV VMT	Summer MC VMT
742			0.0	471.0	4747.4		0.0	301.1	3035.2
744			4950.9	3708.9	23209.6		3165.3	2371.3	14838.9
757			0.0	353.2	3692.4		0.0	225.8	2360.7
758			67.8	58.9	527.5		43.4	37.6	337.2
761			2441.5	2001.6	19517.1		1561.0	1279.7	12478.2
765			14174.4	14482.5	145587.2		9062.2	9259.2	93080.4
767			38589.6	24373.0	260580.1		24671.8	15582.5	166600.5
768			1899.0	3532.3	14769.7		1214.1	2258.3	9442.9
769			5222.1	5180.7	42726.7		3338.7	3312.2	27317.1
770			0.0	1766.2	0.0		0.0	1129.2	0.0
773			0.0	1177.4	3164.9		0.0	752.8	2023.5
774			474.7	1766.2	8967.3		303.5	1129.2	5733.2
TOTAL			67820	58872	527490		43360	37639	337248

ALT B Soil Unit	Full Year Total VMT	Winter Total VMT	Winter ATV VMT	Winter SUV VMT	Winter MC VMT	Summer Total VMT	Summer ATV VMT	Summer SUV VMT	Summer MC VMT
742			0.0	294.4	7912.4		0.0	188.2	5058.7
744			4883.0	3473.4	20044.6		3121.9	2220.7	12815.4
757			0.0	294.4	4219.9		0.0	188.2	2698.0
758			67.8	0.0	527.5		43.4	0.0	337.2
761			2373.7	2119.4	20572.1		1517.6	1355.0	13152.7
765			14310.0	20428.6	145059.8		9149.0	13060.7	92743.2
767			38725.2	15660.0	256887.6		24758.6	10012.0	164239.8
768			1831.1	4121.0	13714.7		1170.7	2634.7	8768.4
769			5154.3	9831.6	41671.7		3295.4	6285.7	26642.6
770			0.0	1883.9	6329.9		0.0	1204.4	4047.0
773			0.0	471.0	2637.5		0.0	301.1	1686.2
774			474.7	294.4	7912.4		303.5	188.2	5058.7
TOTAL			67820	58872	527490		43360	37639	337248

VMT by Soil Unit by Alternative (continued):

ALT C Soil Unit	Full Year Total VMT	Winter Total VMT	Winter ATV VMT	Winter SUV VMT	Winter MC VMT	Summer Total VMT	Summer ATV VMT	Summer SUV VMT	Summer MC VMT
742			0.0	58.9	5274.9		0.0	37.6	3372.5
744			5018.7	3708.9	24792.0		3208.6	2371.3	15850.7
757			0.0	294.4	3692.4		0.0	188.2	2360.7
758			0.0	0.0	527.5		0.0	0.0	337.2
761			2441.5	2001.6	17407.2		1561.0	1279.7	11129.2
765			14310.0	20134.2	149279.7		9149.0	12872.5	95441.2
767			38521.8	14835.7	264800.0		24628.5	9485.0	169298.5
768			1899.0	3944.4	15824.7		1214.1	2521.8	10117.4
769			5290.0	8477.6	36396.8		3382.1	5420.0	23270.1
770			0.0	2060.5	0.0		0.0	1317.4	0.0
773			0.0	1530.7	3164.9		0.0	978.6	2023.5
774			339.1	1825.0	6329.9		216.8	1166.8	4047.0
TOTAL			67820	58872	527490		43360	37639	337248

ALT D Soil Unit	Full Year Total VMT	Winter Total VMT	Winter ATV VMT	Winter SUV VMT	Winter MC VMT	Summer Total VMT	Summer ATV VMT	Summer SUV VMT	Summer MC VMT
742			339.1	1648.4	5274.9		216.8	1053.9	3372.5
744			8206.2	4768.6	25319.5		5246.6	3048.8	16187.9
757			339.1	235.5	5802.4		216.8	150.6	3709.7
758			406.9	0.0	527.5		260.2	0.0	337.2
761			2170.2	2237.1	27957.0		1387.5	1430.3	17874.1
765			11597.2	15895.4	130290.0		7414.6	10162.5	83300.3
767			29366.1	14953.5	240008.0		18774.9	9560.3	153447.8
768			2034.6	4062.2	16352.2		1300.8	2597.1	10454.7
769			5764.7	8359.8	52221.5		3685.6	5344.7	33387.6
770			2984.1	1883.9	5274.9		1907.8	1204.4	3372.5
773			1085.1	1295.2	3164.9		693.8	828.1	2023.5
774			3526.6	3532.3	15297.2		2254.7	2258.3	9780.2
TOTAL			67820	58872	527490		43360	37639	337248

Total PM Emissions by Alternative:

Total Annual	ALT A	ALT B	ALT C	ALT D
	TPY	TPY	TPY	TPY
PM-2.5	28	28	28	27
PM-10	190	188	189	183
TSP	489	483	486	471

Emissions By Soil Unit	ALT A	ALT A	ALT A	ALT B	ALT B	ALT B	ALT C	ALT C	ALT C	ALT D	ALT D	ALT D
	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP
	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY
742	0	2	4	0	2	6	0	2	4	0	3	7
744	2	13	33	2	11	30	2	13	34	2	15	40
757	0	1	3	0	1	3	0	1	3	0	2	4
758	0	0	0	0	0	0	0	0	0	0	0	0
761	1	5	12	1	5	12	1	4	11	1	6	15
765	8	51	132	8	55	142	8	56	145	7	48	123
767	16	107	276	15	100	256	15	101	260	14	91	234
768	0	2	5	0	2	5	0	2	5	0	2	6
769	1	4	11	1	5	13	1	4	12	1	6	15
770	0	2	4	1	4	10	0	2	5	1	5	12
773	0	1	3	0	1	2	0	1	3	0	1	3
774	0	2	6	0	1	4	0	2	5	1	4	11
TOTAL	28	190	489	28	188	483	28	189	486	27	183	471

Total PM Emissions by Alternative (continued):

ALT A	Full Year	Full Year	Full Year	Winter	Winter	Winter	Summer	Summer	Summer
	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP
Soil Unit	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY
742				0.1	0.9	2.3	0.1	0.8	2.1
744				1.0	6.8	17.3	0.9	5.9	15.5
757				0.1	0.6	1.5	0.1	0.5	1.3
758				0.0	0.1	0.2	0.0	0.1	0.2
761				0.4	2.4	6.2	0.3	2.1	5.5
765				4.1	27.5	69.5	3.6	23.8	62.3
767				8.6	57.6	145.7	7.5	49.8	130.6
768				0.2	1.0	2.7	0.1	0.9	2.4
769				0.3	2.3	5.9	0.3	2.0	5.3
770				0.1	0.9	2.3	0.1	0.8	2.1
773				0.1	0.5	1.4	0.1	0.5	1.2
774				0.2	1.2	2.9	0.1	1.0	2.6
TOTAL	28	190	489	15	102	258	13	88	231

ALT B	Full Year	Full Year	Full Year	Winter	Winter	Winter	Summer	Summer	Summer
	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP
Soil Unit	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY
742				0.2	1.3	3.3	0.2	1.2	3.0
744				0.9	6.1	15.6	0.8	5.3	13.9
757				0.1	0.6	1.6	0.1	0.6	1.4
758				0.0	0.1	0.1	0.0	0.0	0.1
761				0.4	2.6	6.4	0.3	2.2	5.8
765				4.4	29.6	75.1	3.8	25.6	67.3
767				8.0	53.5	134.8	6.9	46.3	120.8
768				0.2	1.1	2.7	0.1	0.9	2.4
769				0.4	2.7	7.0	0.4	2.4	6.3
770				0.3	2.2	5.5	0.3	1.9	4.9
773				0.1	0.3	0.8	0.0	0.3	0.8
774				0.1	0.8	1.9	0.1	0.7	1.7
TOTAL	28	188	483	15	101	255	13	87	228

Total PM Emissions by Alternative (continued):

ALT C	Full Year	Full Year	Full Year	Winter	Winter	Winter	Summer	Summer	Summer
	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP
Soil Unit	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY
742				0.1	0.8	2.1	0.1	0.7	1.9
744				1.1	7.1	18.0	0.9	6.1	16.2
757				0.1	0.6	1.4	0.1	0.5	1.3
758				0.0	0.0	0.1	0.0	0.0	0.1
761				0.3	2.2	5.7	0.3	1.9	5.1
765				4.5	30.1	76.3	3.9	26.0	68.4
767				8.1	54.4	136.9	7.0	47.0	122.7
768				0.2	1.1	2.9	0.1	1.0	2.6
769				0.4	2.4	6.2	0.3	2.1	5.5
770				0.2	1.0	2.7	0.1	0.9	2.4
773				0.1	0.6	1.6	0.1	0.5	1.4
774				0.1	0.9	2.4	0.1	0.8	2.2
TOTAL	28	189	486	15	101	256	13	88	230

ALT D	Full Year	Full Year	Full Year	Winter	Winter	Winter	Summer	Summer	Summer
	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP	PM-2.5	PM-10	TSP
Soil Unit	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY
742				0.2	1.5	3.9	0.2	1.3	3.5
744				1.2	8.2	21.1	1.1	7.1	18.9
757				0.1	0.9	2.2	0.1	0.8	2.0
758				0.0	0.1	0.2	0.0	0.1	0.2
761				0.5	3.2	8.1	0.4	2.8	7.3
765				3.8	25.5	64.6	3.3	22.1	57.9
767				7.3	49.0	123.4	6.4	42.4	110.6
768				0.2	1.2	3.0	0.2	1.0	2.7
769				0.4	3.0	7.7	0.4	2.6	6.9
770				0.4	2.5	6.5	0.3	2.2	5.8
773				0.1	0.7	1.7	0.1	0.6	1.5
774				0.3	2.3	5.9	0.3	2.0	5.3
TOTAL	27	183	471	15	98	248	13	85	223