



**Manage Access to Enhance Security
And Protect Park Resources**

Environmental Assessment

August 2010



**Prepared by
National Park Service
Whiskeytown National Recreation Area
Shasta County, California**

Summary

In order to reduce ease of access for individuals involved in illegal marijuana cultivation within the Park, to deter illegal dumping, to prevent resource damage from unauthorized off-road vehicle use, and to improve the visitor experience by removing non-natural features from the landscape, the National Park Service proposes to install ten gates at nine locations to close administrative service roads and to block access to certain abandoned mining and logging roads.

In the fall of 2004, the park received two letters of concern regarding the installation of several gates on roads on the north side of State Highway 299. The park met with the concerned citizens at two meetings and explained that the gates had been installed to deter marijuana cultivation and prevent the dumping of hazardous waste, trash, landscape cuttings. All the roads gated in 2004 following the discovery of marijuana cultivation sites were utility access roads, constructed for the sole purpose to allow PG&E access to their transmission towers and poles. This Environmental Assessment (EA) addresses additional proposed access changes on existing administrative roads. No roads currently used by the public for the purposes of recreational activity will be affected. The primary purpose of this project is to deter marijuana cultivation and illegal dumping. Restricting access to utility and administrative roads and blocking abandoned roads will assist the Park in achieving this goal.

This Environmental Assessment (EA) examines two alternative ways to manage park security and to fulfill the National Park Service mission to protect the physical and cultural resources of the park and make park resources available for the enjoyment of the public. Alternative B, the preferred alternative, calls for the installation of ten gates to restrict unauthorized vehicle access onto administrative roads, as well as, the installation rock barriers to prevent access to overgrown and eroding abandoned logging and mining roads.

Note to Reviewers and Respondents

There are three ways to comment on the EA: 1) post comments online at <http://parkplanning.nps.gov/whis> 2) mail comments to the name and address below, and 3) email comments to the address below. Our practice is to make comments, including names and addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the record, which we will honor to the extent allowable by law. **If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment.** We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. This Environmental Assessment will be available for public review for 30 days.

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Introduction and Significance

Introduction

The park is proposing the installation of ten gates in nine locations on administrative roads and the removal of short sections of abandoned roads where they intersect backcountry roads. These actions are proposed to deter illegal activity via certain abandoned mining and logging roads and restrict illegal access to undeveloped areas of the park. This Environmental Assessment proposes two alternatives and for each alternative analyzes the potential resulting impacts to physical resources, biological resources, cultural resources, overall visitor experience, and health and safety. From the initial internal and public scoping sessions, one action alternative was developed, analyzed and presented to the public. Public comments and responses will provide further refinement of the preferred alternative. The preferred alternative proposes changes on existing administrative roads. No roads currently used by the public for recreational purposes will be affected. The primary purpose of this project is to reduce ease of access as a deterrent to continued marijuana cultivation and illegal dumping. The Park will also see positive benefits from the proposed actions by preventing resource impacts from off road vehicle operators attempting to drive on abandoned roads, in addition to improving the overall scenic quality of the Park by removing non-natural features from the landscape.

Establishment of Whiskeytown National Recreation Area

Whiskeytown is a unit of the Whiskeytown-Shasta-Trinity National Recreation Area and is located in Shasta County, California, about eight miles (13 kilometers) west of downtown Redding (Figure 1). Whiskeytown is a unit of the National Park Service

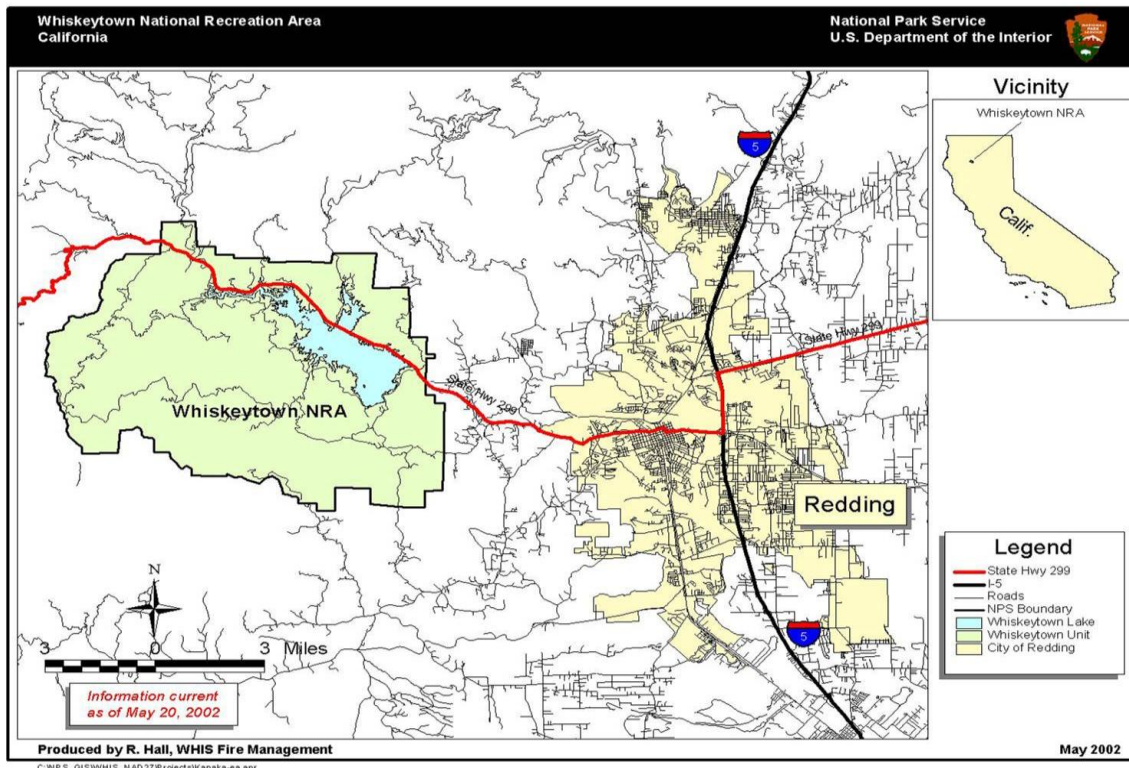


Figure 1. Location Map of Whiskeytown NRA Relative to Redding, CA, in Northern California.

comprised of 42,500 acres (17,000 hectares) of land and water. Elevations range from 800 feet (250 meters) in lower Clear Creek below Whiskeytown Dam, to over 6,200 feet (1,900 meters) atop Shasta Bally. Vegetation in the lower elevations consists of oak woodlands and chaparral; ponderosa pine and mixed conifer forests in middle elevations; and in higher elevations red fir and montane chaparral. Most of the mid-elevation mixed conifer forest is second growth resulting from logging that occurred between the 1940s and early 1970s. Whiskeytown Lake, created by the earth-filled Whiskeytown Dam on Clear Creek, has a surface area of about 3,200 acres (1,300 hectares).

Whiskeytown was established by the Act of November 8, 1965, to:

“...provide, for the public outdoor recreation use and enjoyment of the Whiskeytown reservoir and surrounding lands...by present and future generations and the conservation of scenic, scientific, historic and other values contributing to public enjoyment of such lands and waters...” (P.L. 89-336).

Whiskeytown Lake provides high quality reservoir recreation opportunities because of its forested mountain setting since the reservoir is kept full throughout the summer months. The park has an average visitation of about 750,000 visitors per year. Visitation levels can soar in dry years when other nearby reservoirs are severely drawn down. The Bureau of Reclamation manages the power and water supply functions of Whiskeytown Dam and Reservoir. The National Park Service manages all other facilities within the recreation area including all lands, streams, and associated forest, with the exception of private inholdings, the Clear Creek Water District, and the Crystal Creek Boys Camp.

This environmental assessment was written to address two proposed projects. The first is to complete the installation of ten swing gates at nine locations to close administrative roads to public vehicles throughout Whiskeytown National Recreation Area. The second project is to remove short sections of abandoned logging and mining roads throughout the park so that they will be unusable to all vehicles and reduce the adverse effects to park resources.

Purpose and Need for Federal Action

Individuals associated with marijuana cultivation have been observed, detained, and arrested in Whiskeytown on remote backcountry roads as well as along main roads, such as State Highway 299 West, Whiskey Creek, and Crystal Creek Roads. Since marijuana cultivation requires the transportation of large quantities of fertilizers, irrigation equipment, etc., growers seek out existing road and trail ways to facilitate their movement of materials.

Marijuana cultivation is having a severe impact on Park resources. Four black bears have been found killed near the marijuana sites and their deaths have been attributed to the marijuana activities in those areas. High powered rifles and associated ammunition have been found in the illegal marijuana sites. The growers that have been arrested often have criminal records and are associated with the Drug Trafficking Organizations (DTO) from Central Mexico and have been armed with semi-automatic handguns. These men are a

threat to park staff, the public, and are causing serious damage to the park's natural resources.

Since gates were installed on ten administrative roads in 2004, dumping ceased in those areas, and a significant reduction was seen in illegal camping. There has also been a marked reduction in new marijuana sites along established roads where gates have been installed, although marijuana cultivation continues throughout the park at new locations. The National Park Service believes the presence of gates to secure parklands is the first line of defense along service roads, followed by strategic ranger patrols and surveillance. Gates make access more difficult to individuals hauling materials and supplies to marijuana sites in the upper watersheds.

Additionally, individuals not involved with marijuana cultivation are using these same administrative roads for dumping hazardous waste, trash, appliances, and landscape cuttings. The abandoned logging and mining roads that are visible from primary and secondary roads throughout the park also attract individuals operating off road vehicles. Though most of these roads terminate within a few meters, the repeated vehicle traffic prevents these scars from re-vegetating and furthers erosion issues. Because of the density of logging and mining that occurred in the area, these abandoned roads detract from the scenic quality of the Park.

History and Description of the Project Area

National Park Service Rangers and Shasta County Sheriff's Department determined extensive marijuana cultivation was occurring in the lower elevation hills of Whiskeytown National Recreation Area in the fall of 2001. Local, State and Federal law enforcement agencies conducted surveillance and eventually raided the marijuana cultivation sites recovering thousands of marijuana plants, several guns, ammunition, multiple 25 pound bags of fertilizers and herbicides, thousands of feet of irrigation hose, hundreds of pounds of trash, clothing, and camping equipment and food used to support the illegal growing activities. The marijuana cultivation and associated illegal camping included poaching activities, threats to individual park visitors, and provided wildlife with a source of human garbage to feed upon.

Drug Trafficking Organizations from Mexico are the primary cultivators of these marijuana sites. The National Park Service is trying to reduce the opportunities available to use Whiskeytown National Recreation Area as a cultivation site for production of illegal drugs. The National Park Service is dealing with this issue in Yosemite National Park, Sequoia Kings Canyon National Park, Point Reyes National Seashore, North Cascades National Park, Redwood National Park, and Santa Monica Mountains National Recreation Area. The park's strategy is to detect and destroy marijuana sites once they are found. At the same time, where possible, the park is trying to block administrative roads that provide opportunities for DTO to use as supply routes and entry points.

Access to these illegal marijuana grow sites is gained primarily along the park's established road system, fuelbreaks, and ridges. State Highway 299 West serves as a main feeder route to numerous sites along its corridor. Backcountry access roads, utility

access roads, service roads, and abandoned mining and logging roads are also utilized to access illegal marijuana cultivation sites. A few of the backcountry roads are drivable, but the rest are not. These administrative and abandoned roads are not considered part of the road system that is maintained for public recreational purposes. The Superintendent's Compendium identifies which roads are open to the public. There exists over 300 miles of abandoned logging roads and skid roads within the boundary of Whiskeytown National Recreation Area. These roads are not open to the public, and most are inaccessible by vehicles because they are overgrown and heavily eroded. Since 2001, marijuana cultivation sites have been found throughout all quadrants of the park. Nearly all of these activities occur in remote areas of the park where visitors seldom travel.

Because these roads are not used daily by official staff or utility companies servicing their facilities within the park, some of the non-gated administrative roads are used as drop-off and pick-up points for illegal marijuana activities during the cultivation season (April-October). Since 2001, National Park Service Rangers have either witnessed individuals or arrested people on these remote roads that have been linked to marijuana activity.

In 2005, the park began installing gates to restrict vehicle access on additional utility roads and placing boulders to block abandoned logging and mining roads. These closed service roads, however, are still open park land for visitors to use and enjoy for legitimate recreational activities such as hiking, mountain biking, horseback riding, and wildlife viewing. The closed roads, however, are seldom used by park visitors and typically only used by utility companies and park employees. No public vehicular access on roads currently used by the public for the purposes of recreational activity will be affected by the proposed activities in this EA. Hiking and biking will continue to be permitted.

There is one gate that has been in place for at least 20 years and is currently open part of the year that will not need to be replaced. This is the South Fork Mountain Overlook Access Road, which has been documented in the past few years to be a frequently-used road to provide access to marijuana-growing areas in the upper watershed above Whiskey Creek. Access to this road is from State Highway 299 West across from the park's Visitor Center. The road also serves two park neighbors whose homes are located immediately outside of the park boundary. From the resident's homes, South Fork Mountain Road rises steeply to the summit of South Fork Mountain Overlook. The road accesses Bureau of Land Management (BLM) property and parcels of private property outside of the park. The park consulted with these residents and they supported the installation of the gate. Telecommunications facilities exist on the summit and east face of the mountain. The park was contacted by the telecommunications permittees requesting the road be closed to motorized vehicles due to vandalism to the communication relay towers, micro-wave dishes and antennas. Individuals using high powered rifles and hand guns have done expensive damage to these towers and associated equipment.

This road has been closed since 2008, although it is open seasonally for deer and bear hunting if Law Enforcement believes the threat from marijuana cultivation is low. In the

summer of 2006 and again in 2007, extensive marijuana grow sites were found in the Whiskey Creek Drainage. Access to these sites was via South Fork Mountain Road. The road used to be open; however, the gate has been closed for the past two years except during hunting season. It is proposed that this gate remain closed except during hunting season to prevent non-authorized automobiles from accessing the summit. Visitors can continue to use this road for hiking, mountain biking, and equestrian use and obtain the gate combination if they provide personal information regarding their vehicle to the Chief Ranger at park headquarters.

In 2002, the park reviewed the list of old and proposed new gate locations. Some of the identified gate locations had gates already in place, but many of the gates were either in poor shape, had been vandalized over the past ten years, or were never installed at specific utility access points of entry. The park approved the proposed list of both new and replacement gate locations and installation of the gates proceeded and was completed in 2005.

Whiskeytown has been involved with gates and access to areas not open to the public on a continual basis since 2005. There have been numerous immediate threats to the park related to law enforcement and marijuana cultivation as well as the park-wide fires in 2008. The fires burned vegetation that opened up areas that had previously been inaccessible, making it easier to access remote areas and requiring increased patrols and vigilance to prevent and minimize the establishment of new marijuana grow sites.

Planning Direction, Regulation, and Policy

Enabling Legislation Summary

The enabling legislation of Congress that established Whiskeytown on November 8, 1965, under Public Law 89-336, provided specific responsibilities related to the management of the newly-established recreation area. The park was to "provide...for the public outdoor use and enjoyment" of the specified reservoirs and surrounding lands "by present and future generations, and for the conservation of scenic, scientific, historic, and other values contributing to public enjoyment of such lands and water." The park was increased in size to its current acreage in 1972, when most of the backcountry was acquired, and included the vast majority of the watersheds draining into Whiskeytown Lake.

The preservation of recreation values, the natural setting, and the natural and cultural resources of the park all deserve equal consideration. Prior use of the area and its resources are evident in historic and prehistoric remains and archives. An interesting cultural legacy complements the natural history of Whiskeytown.

The Superintendent's Compendium describes the regulations and authorities provided in Title 36, *Code of Federal Regulations* (36 CFR), and is reviewed and revised as necessary with respect to overnight and day use and the expected continued increase in visitation to the park. A compendium, by its very nature, is a short document that

supplements existing managing documents, and addresses specific issues that arise on a year-to-year basis. This EA will trigger revisions in the Compendium related to road closures once it has been completed that will detail the specific changes made as to the status of specific roads and new regulations that will be in effect once the EA is completed.

Park Purpose and Significance

Based on Whiskeytown's enabling legislation, legislative history, agency management policies, and the knowledge and insights of park staff, the following are the purpose and significance statements for the park.

The purposes of Whiskeytown are to:

- Provide for a wide range of both land and lake-based recreational opportunities and the appreciation of its natural and cultural resources.
- Preserve the archeological features that pertain to the prehistoric races of America and the ancestral Indian tribes as well as historic mining and logging sites.
- Preserve the entire area intact for the purpose of scientific research and the enjoyment and enlightenment of the public.
- Provide a variety of opportunities and a range of experiences, from solitude to high use, to assist visitors in learning about and enjoying park resources without degrading those resources.

Whiskeytown is significant for the following reasons:

- Because of its elevation range and location, Whiskeytown is home to a large assemblage of plant and animal communities.
- Whiskeytown preserves evidence of human occupation from prehistoric to modern times, including American Indian sites and historic mining and logging sites.
- A significant portion of the park mission is the focus on 1850's California Gold Rush history.
- The park contains significant scenic, scientific, prehistoric and historic resources.

Statutes Affecting Resource Protection and Planning

The basis for the management of the lands within Whiskeytown National Recreation Area and this EA can be found in federal law, congressional legislation, and National Park Service Management Policies (2006) that provide guidelines for administering NPS sites. NPS Management Policies are based on the statutory provisions of the 1916 NPS Organic Act (16 USC 1 et. seq.) and establish consistent Service-wide direction for the preservation, management, and use of wilderness and backcountry. The following is a summary of federal and NPS regulations, policies, and guidelines that provide the authority and basis for this plan/EA:

The National Environmental Policy Act (NEPA) of 1969 (P.L. 91-190, 42 USC §4321 et seq.) directs agencies to develop procedures to ensure that the natural, physical, and cultural aspects of the environment are given due consideration in federal actions that may affect these resources. Documentation of existing resources, potential effects to these resources as a result of the proposed project, and public involvement are key

elements of the NEPA process. NPS compliance procedures are described in DO-12 and Handbook – *Conservation Planning, Environmental Impact Analysis, and Decision Making*.

The Endangered Species Act of 1973 (16 USC 1531-1543) requires federal agencies to ensure that management activities authorized, funded, or carried out by the agency do not jeopardize the continued existence of listed endangered or threatened species, or result in the destruction or adverse modification of habitat that is critical to the conservation of the species.

The National Park Service Organic Act of 1916 (16 USC 1a-1) created the NPS, and established its purpose, being *to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations*. It directs the NPS to promote and regulate the use of the parks by such means and measures as conform to their fundamental purposes.

Redwood Act of 1978 (16 USC 1a-1) amends the Organic Act to reemphasize Congressional direction for all NPS lands and states, *the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these areas have been established*.

National Park Service Management Policies, 2006, establishes Service-wide policies for preservation, management, and use of park resources and facilities, and guidelines and direction for the management of NPS lands.

Coordination with Other Plans and Programs

The General Management Plan (GMP) for Whiskeytown National Recreation Area provides general guidance and management strategies for all resources in the park and for the management and development of the park. The Natural Resources Management Plan (1997) provides more detailed direction with respect to the management of natural resources.

The GMP for Whiskeytown addressed critical issues such as recreational use, resource protection, expansion and development of facilities, community relations, interpretation, and other visitor service issues. The GMP emphasizes nature-oriented water-based recreation such as canoeing, sailing, and fishing and expands opportunities for escape from the noise and crowding associated with urban/suburban environments.

There is no specific direction provided for protecting the park from marijuana cultivators or illegal dumping in Whiskeytown National Recreation Area's General Management Plan, approved in March 2000. One of the action items in the GMP was to restore natural landscapes and land forms, including restoring road cuts from logging and power line roads, which are goals that would be advanced by the actions proposed in this EA. The GMP evaluated many of the park's administrative and non-paved roads and made

recommendations for removal or conversion to trails. None of the proposed gate locations were addressed specifically. The road removal actions would clearly meet the goals of the GMP in that most of the proposed locations are remnants of decades-old logging and mining operations.

A Resources Management Plan completed in 1997 for the park identified 16 management objectives that would be used to guide resource-related management decisions. They have been incorporated into the development of the alternatives which are described below, specifically “protecting the diversity of natural ecosystems ...found within the Whiskeytown Unit” and “identifying, protecting, and preserving the significant cultural resources of Whiskeytown” (page 11).

Other planning efforts affecting the park’s roads and trails include a recently completed Shasta Trinity Trail Environmental Assessment. Two other environmental assessments related to utility corridors address the roads which access the power lines that run through the park; one being drafted by a contractor for PG&E discusses a new Right-of-Way permit request for PG&E’s large transmission lines that run east to west through the park just north of State Highway 299 West. This environmental assessment discusses at length reasons for gating the utility access roads that lead to PG&E power pole locations from park roads. Another was written by Western Area Power Authority to address vegetation and road management throughout their transmission corridor and is complete, with the FONSI having been signed in March 2010. None of the routes and roads addressed in this EA are affected by the actions proposed in this EA.

Scoping

Whiskeytown National Recreation Area conducted both internal scoping with National Park Service staff and external scoping with the public and interested and affected groups and agencies.

A press release and a letter to interested parties were sent out on March 28, 2006 and described the National Park Service’s intent to install gates and re-align trailhead parking areas.

The meeting was held in Shasta, CA at Shasta Union Elementary School and approximately 25 people were in attendance. The meeting discussed the marijuana cultivation problem throughout the park and the park’s strategy in dealing with it. The presentation was well-received and the public supported the installation of gates on service roads and the removal of un-drivable sections of roads as described in this document. There was no dissention or counter-arguments raised by the public during the meeting regarding the proposed gates or trailhead re-alignment. There were no alternative concepts put forward for the park to consider and no dismissed options were mentioned as significant or that should be included in the proposed plan of action.

In June 2010, a Scoping Newsletter was prepared and widely distributed to inform the public of the park’s updated alternatives and to solicit comments about the proposed actions and preliminary ranges of issues and concerns which are addressed to date.

The undertakings described in this document are subject to §106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 et seq.). The proposed actions for the sites analyzed in detail in this document meet the criteria for streamlined review under the terms of the Programmatic Agreement between the Advisory Council on Historic Preservation, the National Conference of State Historic Preservation Officers and the National Park Service (2008). Since the Park does not propose immediately addressing all the abandoned logging and mining road locations if the action alternative is selected, not all of these locations have been analyzed in detail for cultural resource impacts. As the park moves to undertake access projects at these additional locations, park staff will conduct archeological surveys where needed and consult with the Redding Rancheria Tribe to identify any traditional sites and will avoid any cultural resources that are discovered. However, based on the analyses conducted thus far, it is anticipated that there will be no impacts from any proposed actions on cultural resources.

Issues and Impact Topics

Specific impact topics were developed to address potential natural, cultural, recreational, and park operations impacts that might result from the proposed alternatives as identified by the public, NPS, and other agencies, and to address federal laws, regulations and orders, and NPS policy. A brief rationale for the selection or non-selection of each impact topic is given below.

Impact Topics Analyzed in Detail

Impacts of the alternatives on the following topics are presented below:

Visitor Use

Providing for visitor enjoyment is one of the fundamental missions of the NPS, according to the Organic Act of 1916 and Management Policies (NPS 2006). Dependent on the selected alternative, impacts to visitor use and/or interpretive programming may occur.

Natural Resources

Geology/Soils: Management Policies (NPS 2006) require the NPS to prevent, to the extent possible the unnatural erosion, physical removal, or contamination of the soil or alteration of geological resources.

Water Resources: The 1972 Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, is a national policy to restore and maintain the chemical, physical, and biological integrity of the nation's waters, to enhance the quality of water resources, and to prevent, and control, and abate water pollution. NPS Management Policies provide direction for the preservation, use, and quality of water in national parks.

Vegetation: The National Environmental Policy Act (NEPA) calls for examination of the impacts on the components of affected ecosystems. NPS policy is to protect the natural abundance and diversity of park native species and communities, including avoiding, minimizing or mitigating potential impacts from proposed projects.

Wildlife and Fish: The National Environmental Policy Act (NEPA) calls for examination of the impacts on the components of affected ecosystems. NPS policy is to protect the natural abundance and diversity of park native species and communities, including avoiding, minimizing or mitigating potential impacts from proposed projects.

Rare, Threatened and Endangered Species: The Endangered Species Act (ESA) requires an examination of impacts to all federally listed threatened or endangered species. NPS policy also requires an analysis of impacts to state-listed threatened or endangered species and federal candidate species. Under the ESA, the NPS is mandated to promote the conservation of all federal threatened and endangered species and their critical habitats within the park boundary. Management Policies include the additional stipulation to conserve and manage species proposed for listing.

Cultural Resources

NPS Management Policies categorizes cultural resources as archeological resources, cultural landscapes, structures/buildings, museum objects, and ethnographic resources. Archeological Resources: Conformance with the Archeological Resources Protection Act in protecting known or undiscovered archeological resources is necessary. One known archeological site is located with the proposed project area, which park management will protect and manage in compliance to the law and NPS Policy.

Ethnographic Resources: Whiskeytown and the surrounding area have a long history of use by Native Americans. Analysis of impacts to known resources is important under the National Historic Preservation Act and other laws. The National Park Service defines ethnographic resources as any “site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (NPS- 28, Cultural Resource Management Guideline). The group known to have cultural affiliations with Whiskeytown is the Wintu (Northern Wintu) and includes the following divisions: the French Gulch (Klabalpom), Keswick (Elpom), Stillwater (Dau-pom), McCloud (Winimem), Upper Sacramento (Nomtipom), Upper Trinity (Nomsus), Bald Hills (Dau-nom), Hayfork (Norelmuk), and Upper McCloud River Valley (Waimuk). The divisions with the closest geographic association to Whiskeytown are the French Gulch (Klabalpom) and Keswick (Elpom) divisions.

Park Operations

Maintenance: Impacts to maintenance and visitor services are often considered in site plans to disclose the degree to which proposed actions would change park management strategies and methods.

Safety/Security: Safety is critical to a positive visitor experience. Accurate directional and information signs, reasonable grades, dry surfaces, highway crossings with adequate sight distance to allow time to cross safely, and warning about natural hazards such as fallen trees, creek crossings, poisonous plants, and uneven surfaces, all increase visitor safety and can mean the difference between a pleasant visitor experience or one

remembered negatively. Providing for the safety and security of visitors and resources alike is one of the fundamental missions of the NPS.

Scenic Values

Management Policies and the NPS Organic Act identify the need to protect the scenic values of parks. The alternatives described herein may affect park viewsheds through the removal of non-natural features from the landscape.

Issues and Impact Topics Considered and Dismissed from Further Consideration

The topics listed below either would not be affected by the alternatives evaluated in this interim site plan. Therefore, these topics have been dismissed from further analysis. Negligible effects are localized effects that would not be detectable over existing conditions.

Geologic Hazards/Geothermal Resources

National Park Service Management Policies (NPS 2001A) call for analysis of geological hazards should they be relevant. Debris flows, a flowing mixture of water-saturated debris caused by heavy precipitation that moves downslope under the force of gravity, do take place within the park, as evidenced by those occurring on Paige-Boulder and Brandy Creeks in the winter of 1997. Mill Creek, which has been identified as a potential site for debris flow, is located in the THHD. However, due to the infrequent occurrence of debris flow, the scarcity of visitors during the winter season, and the remote location of the threat relative to the project site, this geologic hazard were dismissed from further consideration.

Prime and Unique Farmlands

No unique agricultural soils are believed to exist at Whiskeytown. Therefore, this topic was eliminated from further consideration.

National Wild and Scenic Rivers

The National Wild and Scenic Rivers Act require analysis of impacts to designated, eligible or proposed National Wild and Scenic Rivers. Although there are no designated wild and scenic rivers at Whiskeytown, stretches of lower Clear Creek have been nominated for inclusion in the National Wild and Scenic Rivers System. However, actions proposed in this document would have no impact on lower Clear Creek. Therefore, this topic was dismissed from further analysis.

Cultural Landscape

The National Park Service defines a cultural landscape as, “a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values” (NPS- 28, Cultural Resource Management Guideline). Three Cultural Landscapes exist in the park: the Tower House Historic District (NRHP #73000257), the Tower House Archeological District (NRHP #85003483), and the Lower Clear Creek

Archeological District (NRHP # 79003812). None of the proposed actions occur in any of these three districts.

Historic Structures/Buildings

The National Park Service defines buildings and structures as, “an enclosed structure with walls and a roof, consciously created to serve some residential, industrial, commercial, agricultural, or other human use,” and “a constructed work, usually immovable by nature or design, consciously created to serve some human activity. Examples are buildings of various kinds, monuments, dams, roads, railroad tracks, canals, millraces, bridges, tunnels, locomotives, nautical vessels, stockades, forts and associated earthworks, Indian mounds, ruins, fences, and outdoor sculpture. In the National Register program, “structure” is limited to functional constructions other than buildings.” (NPS- 28, Cultural Resource Management Guideline). Because this project is not happening near any historic structures, historic structures/buildings will be dismissed as an impact topic.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources at Whiskeytown. The lands comprising the park are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, Indian Trust Resources were dismissed as an impact topic.

Environmental Justice

Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The proposed action would not have disproportionate health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency’s Environmental Justice Guidance (1998). Therefore, environmental justice was dismissed as an impact topic in this interim site plan.

Wetlands

Executive Order 11990 requires that impacts to wetlands be addressed. Although the annual drainage of the reservoir creates wetlands in numerous areas of the lake shore, none of the proposed alternatives are located in the affected area; therefore, effects on wetlands were dismissed as an impact topic in this interim site plan.

Floodplains

Executive Order 11988 (Floodplain Management) requires an examination of impacts to floodplains and potential risk involved in placing facilities within floodplains. There are no proposed actions in this EA that would affect any floodplains in the park. Therefore, floodplains will not be analyzed as an impact topic in this EA.

Air Quality

The Clean Air Act states that park managers have an affirmative responsibility to protect park air quality-related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse air pollution impacts. Short-term impacts from construction activities would include emissions from vehicles and generation of fugitive dust. The alternatives considered would have only negligible impacts on air quality so this topic was dismissed from further analysis.

Socioeconomic Environment

Tourism associated with Whiskeytown, currently averaging 860,000 visitors each year, is economically important to the communities surrounding the park. Hotels, restaurants, grocery stores, and specialty shops cater to the different users of the park, including water sport enthusiasts, sightseers, campers, and hikers.

The proposed action would neither change local or regional land use nor impact local businesses or other agencies. While this project would prevent the public from utilizing park administrative roads and other abandoned roads that are inaccessible and not used to access recreational areas, there would be a negligible effect on park visitation. Therefore, the socioeconomic environment will not be addressed as an impact in this assessment.

Proposed Action and Alternatives

Introduction

This chapter describes the two alternatives analyzed in this document: Alternative A – No Action/Current Management and Alternative B – Proposed Action/Preferred Alternative. These alternatives were developed through evaluation of comments provided by individuals, organizations, governmental agencies, and the park’s interdisciplinary management staff.

Additionally, the environmentally preferable alternative is defined, mitigation measures undertaken in the proposed action are described, and actions common to both of the alternatives are discussed.

Alternative A - No Action/Current Management

Under the No Action Alternative, the park administrative roads that are currently open would remain un-gated. Unrestricted access would continue for any member of the public to drive up the roads to park residences, to the bases of the power poles, and continue to make in-roads by continued trampling of vegetation and archeological sites on abandoned logging and mining roads.

The non-gated administrative roads and unblocked abandoned roads would continue to be used for illegal activities, such as marijuana cultivation, dumping of household garbage and appliances (refrigerators, stoves, and car parts), and dumping of hazardous waste (containers of motor oil and hazardous/ poisonous liquids). Landscape cuttings would likely be dumped as they have been in the past, which contributes to the spread of noxious weeds.

Without gates to prevent illegal activity, park ranger patrols will be the only factor to prevent this activity from continuing. Thus, education and ranger patrols will serve as the primary deterrent to those responsible for the illegal activities.

Under alternative A, the Maintenance Division will continue to maintain facilities, make necessary repairs and grade utility roads as necessary to minimize damage from service vehicles accessing the towers, sewer treatment facilities and water plants. Trash collection will continue as usual and the park will continue to pay for removal of appliances dumped into the backcountry on these remote roads. Park personnel and researchers will be exposed to continued opportunities of encountering Drug Trafficking Organization plantation growers and this could be harmful to their safety.

Alternative B - Proposed Action/Preferred Alternative

In order to reduce ease of access for individuals involved in illegal activities such as marijuana cultivation, dumping of appliances, trash, hazardous waste and landscape cuttings, and unauthorized off-road vehicle use; and to improve the visitor experience by removing non-natural features from the landscape, the National Park Service proposes to install ten

gates at nine locations to close administrative service roads and to block access to certain abandoned mining and logging roads.

The National Park service has implemented two management strategies in an attempt to deal with the illegal activities, beginning in 2001. The first strategy involved direct intervention by rangers and cooperating law enforcement agencies in raiding marijuana cultivation sites when sites are discovered. Adding to this strategy in 2005 was a request for a base-funding increase by the National Park Service to increase the size of Whiskeytown National Recreation Area's field ranger staff from seven to ten. This was approved in 2009 and three new Rangers were hired.

The second strategy employed is installation of gates to restrict vehicle access to all administrative roads, utility roads, and permanently block access to abandoned logging and mining roads throughout the park. Law enforcement investigators determined that many of these administrative roads (used either by the National Park Service or by permitted utility companies) were being used as primary routes to access remote, hidden and illegal marijuana sites, and dump sites. For example, growers were using the Merry Mountain and Slate Gulch PG&E utility service roads to access illegal marijuana sites in the park and adjacent to the park's boundary in the Grizzly Gulch, Slate Gulch, and Whiskey Creek watersheds. Growers and their supplies were being dropped off on the roads in the middle of the night to transport personnel and supplies to grow sites. Occasionally, 4x4 vehicles would be used on rough, seldom-used dirt roads to access potential grow areas.

Installation of Gates

Under this alternative, ten gates in nine locations would be installed as proposed and barrier closures on roads would be installed to prevent any vehicular access to further protect park resources from illegal activities. The park Superintendent and Chief Ranger selected the locations where the gates would be installed and these nine gate locations would complete the park security needs of Whiskeytown National Recreation Area's front and backcountry. While managers and park staff would have the option to keep the gates unlocked and open, the gates, in this alternative, would typically be closed, although a few would be kept open in the summer to allow for recreation along Clear Creek. Typically, visitors would find a locked gate, but the area would still be open for hikers, bicyclists, and equestrians. At this time, there are no plans to install additional gates in the future, although there may be replacement of gates currently used for access to utility infrastructure.

The seasonal closing of roads and gates is a common practice at Whiskeytown during the winter months when snow and storms make road travel unsafe due to downed trees and poor road conditions. These roads are opened when the park feels it is safe to travel on them. A few of the proposed gate locations in this EA provide access to fishing spots along Clear Creek via short roads and will be kept open during peak summer periods, similar to the gates that we open and close seasonally on other roads throughout the park.

This annual practice has always been well-accepted and will be continued with this project.

The access barrier locations were determined following a park-wide survey of abandoned logging and mining roads that could serve as entry points into potential marijuana-growing areas. The vast majority of these locations leave from lesser-used dirt roads. The Ranger Activities Division, which is responsible for enforcing laws and deterring illegal activity, selected the locations where road removal may occur to prevent access to remote areas of the park.

The closure of roads identified in this EA will have no effect on park responses to wildfires, search and rescues or other emergency incidents. The roads where gates would be installed are administrative roads accessible to park employees and emergency response personnel and the roads with barriers are not used by vehicles at this time.

Figures 2 and 3 are examples of the type of gates currently used in the park and which would be installed under this Alternative.



Figure 2. Example of Single Swing-Style Gate Along Highway 299 West



Figure 3. Example of Double Swing-Style Gate Along Highway 299 West

Under Alternative B, Maintenance workers should have a reduced amount of trash removal since the gates will prevent dumping on roads currently open as is presently occurring. Maintenance workers should be able to work in a safer environment since the gates will serve as a deterrent to the DTO's cultivating marijuana in Whiskeytown.

The Maintenance Division will continue to maintain facilities, make necessary repairs and continue to maintain administrative roads as necessary to minimize damage from service vehicles accessing the sewer treatment facilities and water plants. Trash collection will continue as it is done today.

The other components to Alternative B require boring two, 2-foot diameter holes in the ground, approximately 4 feet deep to support the swing gates. These are localized holes that have minimum disturbance to land outside the immediate area of the digging. An Archeologist will survey all gate locations prior to excavation; however, all suggested locations for the ten proposed gates are currently situated in the road prism and likely exist in previously disturbed ground or bedrock. The installation takes about two working days to install a gate at its permanent location.

Maintenance operations will have to burden the initial upfront investment of constructing and installing the proposed ten gates. The park will need to seek special funds for construction of the gates. Under this alternative, all gates could be fabricated at the same time and the necessary workers can be hired on specific project funds.

The park will consider utilizing recycled materials to construct gates, if practical.

The following nine locations have been proposed for the installation of ten gates:

1. Oak Bottom Effluent Spray Field: This is a dirt road leading off the north side of State Highway 299 West, just east of Oak Bottom and Grizzly Gulch. The road leads to the Oak Bottom Effluent Spray Field where treated waste water is pumped from the Grizzly Gulch Water Treatment Plant and sprayed across a fenced field. The access road is just under ½ mile in length from Highway 299 to the spray field. The proposed gate would be located 100 feet in from State Highway 299.

2. Carr Power House, Employee Housing Area: A service road exists on the right side of South Shore Drive, ¼ mile past the Clear Creek Bridge near the Carr Power House, provides access to two park residences and a Western Area Power Authority (WAPA) access road. It is proposed to install a gate at the beginning of the service road immediately off South Shore Drive at the bottom of the hill.

3. Coggins Flat Mill Site, North and South Entrances: Along the east side of Trinity Mountain Road, a large open flat area known as Coggins Flat has two entrances. This area used to be a private logging mill prior to the park's creation in 1965. The site was initially disturbed when the area was dredged and hydraulically-mined along Clear Creek in search of gold during the late 1800's. The dredge tailings were leveled to make way for the mill site in the 1940-1950s. It is proposed to gate both entrances and create a small parking area in the main flat area at the newly installed northern gate.

4. Crystal Creek Quarry Road/ Church Point: One gate will be installed on an old logging road that leads off Crystal Creek Road into the drainage and extends just over 100 yards distance. The road is located immediately down hill from the Crystal Creek tailing pile. There is also an abandoned logging road less than 100 yards uphill from the Crystal Creek tailing/quarry site. It is proposed to install boulders to block access at this location due to safety concerns.

5. Peltier Campground, NEED Camp Fire Access Road: This project proposes moving the gate from its present location up to the shoulder of Peltier Road. Currently, a short 100 yard road extends off Peltier Road to the gate. This is the NEED Camp fire escape road for emergency vehicle use.

6. Funderberg Flats: Funderberg Flats is used by CalTrans and the National Park Service to store landslide material collected from State Highway 299 West. There exists a short loop road that leads down to the Oak Bottom Water Ditch Trail and returns back up hill to the spoils area. This road was used to service a water in-take system for nearby park residences. The system has been relocated and this access road is no longer used by the park. It is proposed to block this short service road with a gate.

7. Clear Creek Access Road West of Carr Power House at Slate Gulch: This is a short dirt road that comes off State Highway 299 on its south side and leads down to an alluvial flat adjacent to Clear Creek. It was used as a driveway to an old homestead. It is proposed to install a gate on the road that would be opened seasonally for fishermen and swimmers. The potential for dumping will still exist, but it is important to provide access to Clear Creek before it flows into the lake. This road is not used to access marijuana-growing areas.

8. Oak Bottom Utility Road (Water tank and recycling center): This is a short, steep, 200-yard road that passes through the concessionaire's recycling and bear proof garbage area and on to the Oak Bottom water storage tank. The garbage and recycling center, operated by the contracted concessionaire, needs to be secured from public access. For public health reasons and to prevent vandalism to the water storage facility, a gate is proposed at the bottom of the road near the main access road to the Oak Bottom Marina.

9. Short Road East of Staging Area Entrance off Trinity Mountain Road: This is a short road that runs down to Clear Creek off of Trinity Mountain Road just before the entrance to the staging area that Whiskeytown will be constructing in 2010. It is also an access road to PG&E distribution lines and poles that has historically been used to dump exotic vegetation cuttings as well. The area can be easily accessed on foot with a short walk after parking at the staging area across the creek from this location.

See Figure 4 for proposed gate locations on the north side of Whiskeytown Lake and Figure 5 for the location of the proposed gate south of Whiskeytown Lake.

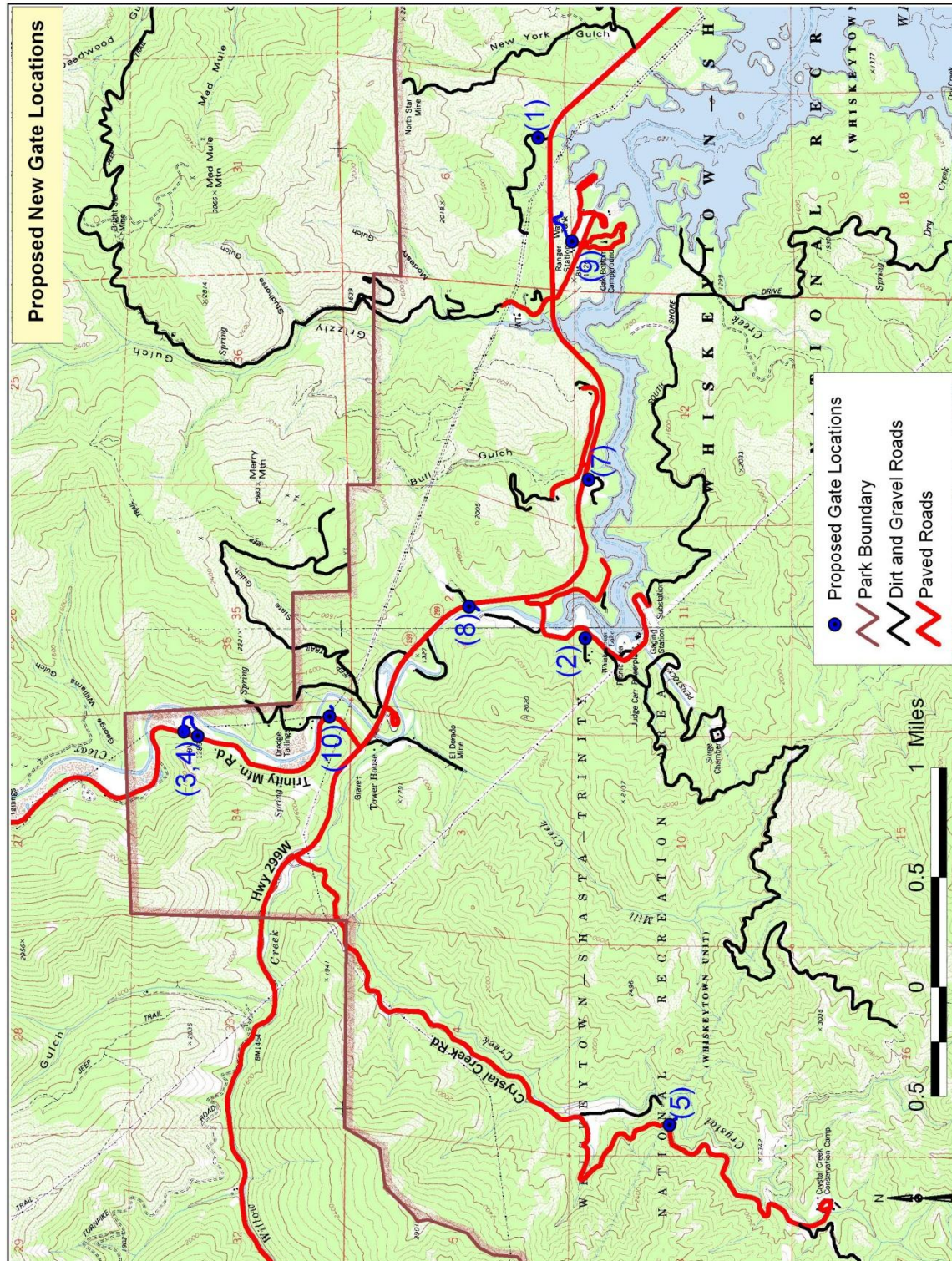


Figure 4. Proposed Gate Locations North of Whiskeytown Lake.

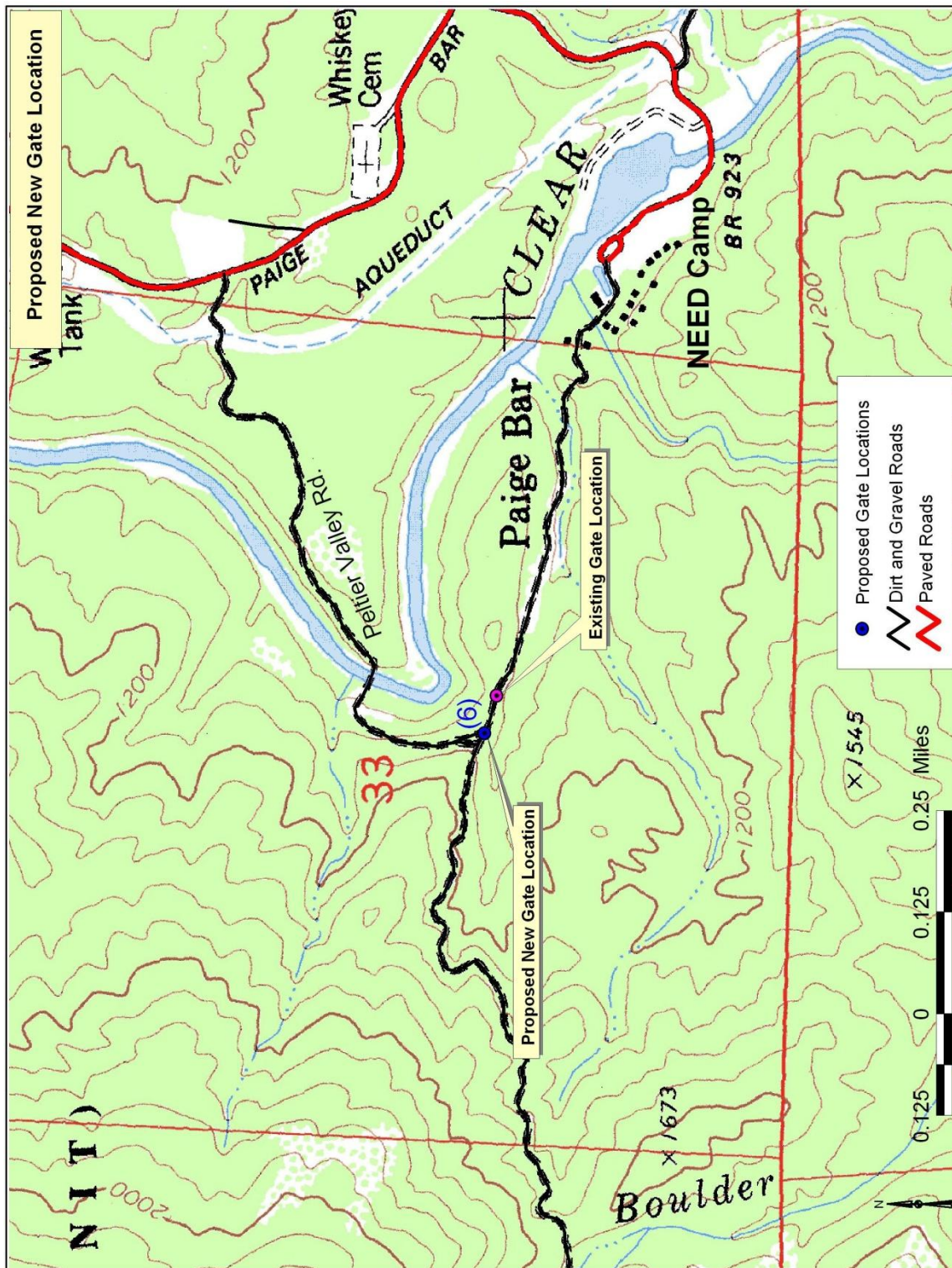


Figure 5. Proposed Gate Location South of Whiskeytown Lake.

Block Access to Abandoned Logging and Mining Roads

Throughout Whiskeytown National Recreation Area, there are numerous old, abandoned logging roads and skid trails that the public periodically attempt to drive their four wheel drive vehicles on. This is an illegal activity and violators are cited using Code of Federal Regulation 36 CFR 4.10a, Travel on Park Roads and Designated Routes and 36 CFR 2.1 Preservation of natural, cultural and archeological resources. These sites also have documented cases of illegal dumping. Since these abandoned roads are numerous and distributed throughout the park, it is difficult to prevent further resource damage through enforcement or education. See Figures 6 and 7 for representative photographs of these locations.



Figure 6. Example of Area Along Brandy Creek Road Where Blocking Access and Restoring Natural Conditions May Occur



Figure 7. Example of Area Along Carr Powerhouse Road Where Blocking Access and Restoring Natural Conditions May Occur

The vast majority of these roads or skid trails do not extend beyond 150 feet before vegetation, gullies, and topography prevents further progress. These short sections of roads will be closed by placing large rock boulders at the ingress from the legal roadway. Rocks from the restoration of the Crystal Creek Quarry site will be used as road barriers until the supply is exhausted. After that, preference will be given to boulders obtained from the local area in order to maintain a consistent appearance.

In addition to the placement of boulders, small sections of the abandoned roads may be removed and restored. In time, the barriers may be removed when trees or chaparral are sufficiently tall enough to prevent automobile access onto the abandoned roads. This type of park resource protection will be done as needed, which is expected to occur once a year. Heavy equipment may also be used to remove road segments or place boulders in specific locations to stop vehicles from continuing to disturb park resources.

The areas where these illegal activities occur most often are along the main recreational roads such as Mule Town Road, Paige Bar Road, Peltier Valley Road, Brandy Creek Falls Road, Kennedy Memorial, Shasta Bally Road, Mill Creek Road, South Shore Drive, Crystal Creek Road, Whiskey Creek Road, Pioneer Drive, and State Highway 299. The main roads will not be closed, only the areas where the public would have access to abandoned roads that are not a part of the park road network.

The park is near completion of a park-wide survey to identify locations capable of serving as access points for DTO's, primarily abandoned mining and logging roads. Some are partially drivable, while others are nearly entirely overgrown. There are approximately fifty sites, which will have some form of barrier closure installed. Initially, the Park proposes to restrict access at six locations. These are:

1. Short dead-end road segment off of Crystal Creek Road to be closed to vehicles using boulders.
2. Utility access Road off of Crystal Creek Road to be closed to vehicles using boulders.
3. Short dead-end road segment off of Mill Creek Road to be closed to vehicles using boulders.
4. Utility Access Road near Carr Powerhouse to be closed to vehicles using boulders.
5. Utility access road off of Trinity Mountain Road to be closed to vehicles using boulders.
6. Short road segment off of Trinity Mountain Road to be closed using heavy equipment and road removal and restoration techniques.

See figure 8 for a map of these sites.

For the additional sites not specifically listed above, each area will be evaluated and a decision made as to what type of barrier closure work will be needed to prevent these areas from being accessible to the public. Any impacts from these additional actions will be the same as for the sites addressed in this environmental assessment. All requirements of §106 of the National Historic Preservation Act will be fulfilled before any work is undertaken.

It is unknown at this time how many roads segments may be removed as part of this project. If/when roads are removed, the process will involve excavating fill material and placing it back in the cut bank. At hydrologic crossings, all fill material will be removed and placed in the cut bank. The disturbed area will then be mulched with native vegetation removed in the course of taking out the road. The park may choose to replant in the disturbed area with native vegetation, which will be determined on a case-by-case basis.

Soil and rock disturbed during removal of road segments would be susceptible to some erosion, but best management practices (BMP's) will be used to reduce soil erosion. Road removal for barrier closure will require heavy equipment such as excavators, dozers, and front loaders. To avoid introduction of exotic plant species, native material would be used to control soil erosion and to cover all disturbed soil. Exotic plants will be treated prior to any disturbance to decrease their seedbed. Equipment and tools will be cleaned before use in the area and after use in the known areas of infestation. Monitoring and follow-up treatment will be conducted following project completion.

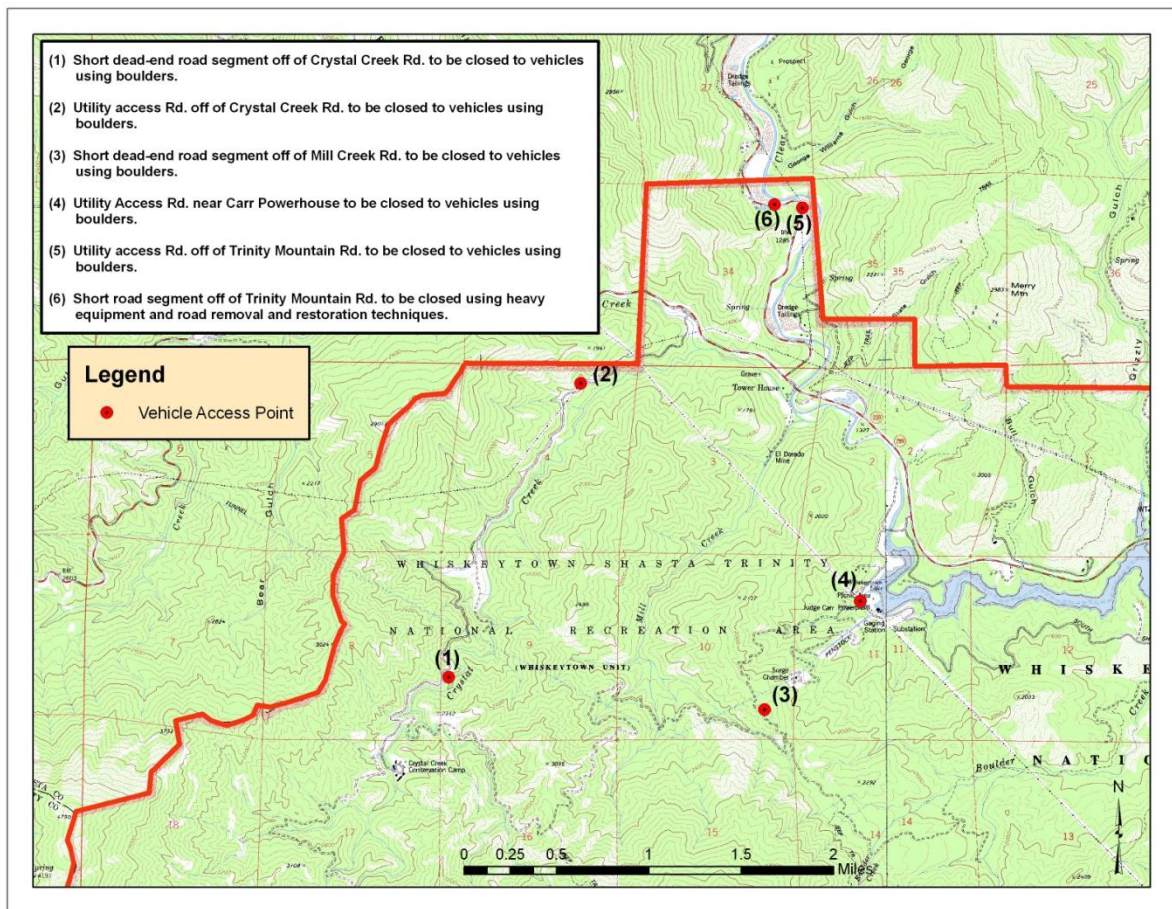


Figure 8. Map of abandoned roads to be blocked and/or rehabilitated

Alternatives Eliminated from Further Study

One alternative that was eliminated from further study included keeping the proposed gates open during the day and closed only at night to allow for recreational use by the visiting public during the daytime. This alternative was considered but dismissed for several reasons. First, the vast majority of the proposed gate locations are on administrative roads that do not provide access to recreational opportunities and that lead to park infrastructure. Secondly, opening and closing gates on a daily basis is impractical, time-consuming, and likely to not occur on many occasions. Finally, there is always the possibility that growers the park is attempting to prevent from accessing areas of the park behind the gates may still be able to use the roads while the gates are open. Due to these reasons, this alternative was eliminated from further study.

The Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that “[t]he

environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101..."

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and,
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Both alternatives address criteria 1 through 5, while criterion 6 is not applicable to any alternative. Although both alternatives provide some environmentally preferred benefits, the National Park Service has identified Alternative B as the Environmentally Preferred Alternative because it may achieve these benefits to the greatest degree.

Criterion 1 is achieved in both Alternatives. However, Alternative B provides for the greater magnitude because increased security will be delivered by installing locked gates on road systems that the illegal marijuana cultivators are using to service their planting sites. Placing rock barriers at and/or removing portions of abandoned roads will also serve to protect resources by deterring illegal activities such as off-road vehicle use and dumping. Under Alternative B, parklands will be better protected for future generations.

Criterion 2 is achieved by both Alternatives. Alternative B provides for a greater magnitude because the gate's purpose is to reduce the opportunities for illegal marijuana cultivators to use the park for raising their product. The public will feel safer enjoying park forests and trails if marijuana cultivators are not using the park to grow illegal drugs. Alternative B provides the best security with gates that currently serve as delivery routes to supply marijuana growers with men and supplies. This alternative will stop dumping trash on roads that are gated and abandoned roads which will maintain the aesthetics of the park and help control the spread of weeds. The removal of portions of the abandoned roads will also make the landscape more aesthetically pleasing.

Criterion 3 is achieved by both Alternatives. Alternative B provides for a greater magnitude because the gate's purpose is to reduce the opportunities for illegal marijuana cultivation. It is known through park monitoring that marijuana cultivation degrades park resources through polluting streams, soils, wildlife poaching and damages native plants and their soils structure. Alternative B provides the best incentives of both alternatives in preventing marijuana cultivation in the park by curbing vehicle access to selected roads.

This alternative will also stop the practice of dumping trash on gated or blocked roads and will maintain the aesthetics of the park and assist in the control of weeds.

Criterion 4 is achieved by both alternatives. Alternative B provides for a greater magnitude because the gates will prevent vehicles from impacting archeological sites and minimize erosion.

Criterion 5 is achieved by both alternatives. Alternative B provides for a greater magnitude because the gates will maintain the high standard of living through natural experiences found by those who take the time to enjoy the natural beauty of the park's backcountry. Preventing illegal activity in the park maintains a higher standard of living for a visitor's experience at Whiskeytown National Recreation Area.

Criterion 6 is not applicable to either alternative. There will be no renewable resources generated and no depletable resources available to recycle. Vegetation will be protected and erosion will be reduced and mitigated where necessary, however.

Table 1. Comparative Summary of Alternatives

Project Description	Alternative A – No Action/Current Management	Alternative B – Proposed Action/ Preferred Alternative
Key Elements of the Alternative	<p>Roads to administrative sites of the park which illegal marijuana cultivators have used as access points will continue to serve their needs.</p> <p>Illegal dumping of hazardous waste, home appliances and landscape cuttings will continue. Illegal four wheel drive activity will continue to trample vegetation on these service roads and abandoned mining and logging roads.</p> <p>The abandoned roads will continue to impact the scenic qualities of the park.</p> <p>Park security issues will continue to be vulnerable. Un-gated roads and the park resources on these roads will continue to be subject to vandalism (water tanks, park residences, utility systems).</p>	<p>Security gates will be installed at nine locations throughout the park to protect the park's administrative sites and prevent access to areas prone to trash dumping.</p> <p>The gates, in this alternative, will be kept locked. The public can still enter some of these areas on foot, bicycle or horse.</p> <p>Abandoned roads will be removed in select areas to prevent access for marijuana growing and other illegal activities, making these roads undriveable. Barriers will be placed in locations where abandoned roads are not removed to prevent driving on them.</p> <p>The added security may help reduce vandalism and theft at park residences and park utility systems and marijuana cultivators will find some sites harder to access than before the installation of gates.</p>

Project Objectives To Be Met	Alternative A – No Action/Current Management	Alternative B – Proposed Action/ Preferred Alternative
<p>Deter Illegal Marijuana Cultivation: Prevent access to remote areas of the park by vehicles to deter marijuana cultivation. Transportation of supplies and personnel made difficult reducing the attraction of using the park for cultivating drugs.</p> <p>Stop illegal dumping of: home appliances, hazardous wastes, landscape cuttings</p> <p>Disturbed Lands: Land contours restored Riparian areas restored</p> <p>Scenic Values: Improve the scenic quality of the park by allowing numerous abandoned roadways to revegetate.</p> <p>Safety: Limit access to remote areas by gating non-recreational roads</p> <p>Security against vandalism and illegal use</p>	<p>Without gates to prevent illegal activity, park ranger patrols will be the only factor to prevent this activity from continuing.</p> <p>Education and ranger patrols will serve as the primary deterrent.</p> <p>Vandalism continues to park infra-structure, Public Health issues.</p>	<p>All of the project objectives will be met in this alternative.</p> <p>Install gates, but keep them closed to the public.</p> <p>Installation of gates will prevent vehicle access, making it more difficult for drug cultivators to access remote backcountry lands. Supplies and personnel will be forced to hike into sites in upper drainages.</p> <p>Some illegal activities could still continue, but night-time activities would be reduced.</p> <p>Vandalism will be reduced by installation of gates.</p> <p>Healthier streams and water quality by preventing marijuana growers from cultivating drugs in the park.</p> <p>New gates and NPS locks will increase costs for park operations and maintenance. Periodic cyclic maintenance will require repair of gates from vandalism and lock replacements from theft. Gates will require preventative maintenance such as scheduled painting and grease injection on hinge points.</p> <p>Blocking and/or restoring abandoned roadways will deter illegal activity and improve the overall scenic quality of the Park.</p>

Affected Environment

Geology and Soils

According to the National Park Service's Management Policies 2006, the National Park Service will strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil or its contamination of other resources.

The bedrock geology of Whiskeytown NRA is composed of five major units including the Cretaceous granodiorite of the Shasta Bally Batholith, the Mississippian sedimentary Bragdon Formation, the Devonian Balaklala Rhyolite, the Devonian Copley Greenstone, and the Devonian trondhjemitic Mule Mountain Stock. The Shasta Bally Batholith is located in the south to southwestern portion of the park and is the largest exposed bedrock unit forming the high peaks within the park including Shasta Bally at over 6,000 feet in elevation. Soils derived from the batholith are extremely erosive and are considered some of the most erosive soils and bedrock in the U.S. The Bragdon Formation is exposed only in the extreme northwestern section of the park and is the smallest exposed unit. Soils derived from the Bragdon Formation are considered highly erosive. The only fossil recovered from the park is from this unit and remains unidentified, although it is thought to be a trilobite. The Balaklala Rhyolite is exposed in the western portion of the park and is slightly metamorphosed, although still considered a rhyolite. Soils derived from the Balaklala Rhyolite are considered highly erosive. The Copley Greenstone is metamorphic rock exposed in the southeastern, central, and northeastern sections of the park and is comprises the second largest exposed bedrock unit in the park. Soils derived from the Copley Greenstone are considered highly erosive. The trondhjemitic Mule Mountain Stock is exposed in the western portion of the park and is a metamorphic rock. Trondhjemite is a term describing alteration through albitization (replacement of Ca with Na) of a granitic unit. Soils derived from the Mule Mountain Stock are considered highly erosive. The greenstone, rhyolite, and trondhjemite are considered coeval in origin. Exposed bedrock units are covered in some areas by Quaternary alluvial and colluvial deposits including large debris flow deposits emanating from the Shasta Bally Batholith.

Since the re-contouring of landforms on the site is an action included in Alternative B, soils will be addressed as an impact topic.

Water Quantity / Quality

National Park Service policies require protection of water quality consistent with the Clean Water Act. Section 401 and 404 of the Clean Water Act authorizes the EPA and the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge of dredged or fill material or excavation within U.S. waters. Proposed actions that have the potential to adversely impact water qualities, through the discharge of dredged or fill material or excavations must be addressed in a Statement of Findings.

Two Executive Orders are germane to this action. Executive Order 11988, Floodplain Management, requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. Certain construction within a 100-year floodplain requires preparation of a Statement of Findings. Executive Order 11990, Protection of Wetlands, requires federal agencies to avoid, where possible, adversely impacting wetlands. Proposed actions that have the potential to adversely impact wetlands must also be addressed in a Statement of Findings.

Water resources for Whiskeytown NRA include Whiskeytown Lake, eight perennial streams, and numerous intermittent and ephemeral streams. The eight perennial streams include Paige Boulder Creek, Brandy Creek, Boulder Creek, Mill Creek, Crystal Creek, Willow Creek, Clear Creek, and Whiskey Creek. Whiskeytown Lake is a reservoir that impounds Clear Creek in the southeastern section of the park. Locally, Clear Creek is divided into two sections, upper Clear Creek and lower Clear Creek with the divide between the two at the dam. All perennial streams discharge into Whiskeytown Lake above the dam with the exception of Paige Boulder Creek which drains into lower Clear Creek below the dam. Willow Creek and Whiskeytown Lake are listed on the 303(d) list of contaminated water bodies of California. Willow Creek was listed in 1984 for metal contamination and the source of the contamination is the Greenhorn Mine which is located approximately two miles upstream of the park boundary. In 2009 Whiskeytown Lake was listed for mercury contamination based upon fish tissue samples.

Floodplains are located within the park on the low-gradient sections of the perennial streams including Clear Creek, Willow Creek, and Brandy Creek. The most pronounced floodplains are on upper and lower Clear Creek; however the floodplains of lower Clear Creek upstream of Paige Boulder Creek are no longer functional due to the installation of the dam in the early 1960's and floodplains downstream of Paige-Boulder within the park have marginal functionality. Floodplains on upper Clear Creek within the park are present from boundary in the Coggins Flat area downstream to the confluence with Whiskeytown Lake. Floodplains on Willow Creek within the park occur from the boundary downstream to the confluence of upper Clear Creek. The Floodplain on Brandy Creek occurs in the Brandy Creek Beach area at the confluence with Whiskeytown Lake. Other small floodplains do occur on other perennial and intermittent streams but are extremely localized in extent.

Wetlands are present in Whiskeytown NRA in one generalized location and two specific locations. The generalized locations include areas of shoreline around Whiskeytown Lake. The two specific locations include the Old Mill Pond along Highway 299 near the Tower House Historic District and along lower Clear Creek in the NEED Camp area.

The proposed action will not discharge dredged or fill material into or require excavation in the waters of the U.S. A Statement of Findings will not be prepared and an Army Corps of Engineers 404 permit will not be requested. Additionally, the proposed actions do not occur in floodplains or wetlands and consequently will have no impacts to these resources and therefore a Statement of Findings for these resources will not be prepared.

Past land use for mining activities at the Coggins Flat area was identified as a source of potential contamination for mercury and SVOC's (Semi volatile Organic Compound). Two studies have been performed to characterize the condition of the site for these potential waste products which include a Preliminary Assessment (PA) which qualify the potential for contamination, and a Principal Responsible Party (PRP), which evaluates land ownership and potential liability for contamination. As a result of the PA, the Coggins Flat site has a high probability for mercury contamination and a moderate to low probability of SVOC contamination. A site investigation is planned for the summer of 2010 to determine levels of contamination, if any.

Placement of the gates is outside the floodplain and not within wetlands. Consequently, these factors will not be evaluated or addressed in the Water Resource Impacts section (Executive Orders 11988 Floodplain Management and 11990 Protection of Wetlands). The actions taken to install the gates will not have the potential to release any toxic material, if present at the site.

Vegetation and Plant Communities

The park is located within the Klamath Mountain physiographic province and is an area of significant diversity due to proximity to the Cascade Range, Coast Range, and Sacramento Valley. The diverse plant communities intergrade with one another in such a way that distinct boundaries are seldom observed. This patchy vegetation pattern reflects a broad range in elevation, rugged topography, diverse soil types, and a history of natural and human disturbance.

For the purposes of this environmental assessment, these diverse habitats have been grouped into seven plant communities based on descriptions by Biek (1988) and Sawyer and Keeler-Wolf (1995). The seven plant communities are: Mixed Conifer, Ponderosa Pine, Knobcone Pine, Mixed Oak Woodland, Blue Oak Grasslands, Chaparral Communities, and Riparian Communities.

Mixed Conifer

The mixed conifer community covers approximately 10,000 acres and is primarily comprised of a mixture of codominant tree species. These species are ponderosa pine (*Pinus ponderosa*), incense cedar (*Calocedrus decurrens*), Douglas fir (*Pseudotsuga menziesii*), sugar pine (*Pinus lambertiana*), and white fir (*Abies concolor*).

Subcommunities contain species that are less dominant but regionally plentiful such as white alder (*Alnus rhombifolia*), California yew (*Taxus brevifolia*), red fir (*Abies magnifica* var. *shastensis*) and Jeffrey pine (*Pinus jeffreyi*). In areas of dense forest canopy, the understory shrubs are either sparse or scattered and consist of tan oak (*Lithocarpus densiflorus* vars. *densiflorus* and *echinoides*), greenleaf manzanita (*Arctostaphylos patula*), dogwood (*Cornus* spp.), western azalea (*Rhododendron occidentale*), snowbush (*Ceanothus cordulatus*), and sierra gooseberry (*Ribes roezlii*). Logging, debris flows, high severity fire and the nature of the granitic soils can create more open canopies so that montane chaparral species such as greenleaf manzanita, chinquapin (*Chrysolepis sempervirens*), tan oak and huckleberry oak (*Quercus vaccinifolia*) can dominate.

The ground cover in the mixed conifer plant community is composed of grasses, ferns, sedges, and some of the park's most unique herbaceous species such as parsley fern (*Cryptogramma acrostichoides*), twinflower (*Linnea borealis* var. *longiflora*), and bride's bonnet (*Clintonia uniflora*). The forest floor vegetation layer consists of low-growing lichens and mosses.

The mixed conifer forests can be found between approximately 3,000 feet to 5,900 foot elevation on Shasta Bally. A prime example of the mixed conifer community is found along Crystal Creek Road, from above the Crystal Creek Regional Boys Camp to Coggins Park. The unlogged areas at Coggins Park demonstrate a forest community that probably covered most of the higher elevation mountain slopes before they were logged. Jeffrey pine and white fir are found on the upper slopes of Shasta Bally, with the east side favoring Jeffrey pine. A few acres at the summit of Shasta Bally have a significant amount of red fir.

Ponderosa Pine

Ponderosa pine forests cover approximately 10,000 acres in the park from approximately 1,500 to 3,000 foot elevations. Ponderosa pine is the dominant tree in this community with Douglas fir, dogwood, canyon live oak, and other scattered hard and softwood species present to a lesser extent. Black oak is codominant with ponderosa pine in many areas. The understory shrub component includes manzanita, ceanothus species, poison oak (*Toxicodendron diversilobum*) and toyon (*Heteromeles arbutifolia*). Other shrubs, herbaceous species and grasses are quite similar to those in the mixed conifer discussion above, with the exception that the lower elevation ponderosa pine communities have more annual and exotic grass cover, which may contribute to increased fire frequency. The ponderosa pine forests in the park are often intermingled with mixed oak woodlands.

Knobcone Pine

Knobcone pine communities cover approximately 2000 acres in the lower elevations of the park, from about 1000 to 2000 foot elevations. Stands of knobcone pine are typically even-aged, and range from dense stands with few other associate tree species to open communities codominated by black oak, with scattered grey pine (*Pinus sabiniana*), ponderosa pine, and other occasional hardwood and softwood species. The understory is variable, but typically dominated by white leaf manzanita (*Arctostaphylos viscida*), with toyon, poison oak, coffeeberry (*Rhamnus spp.*), yerba santa, and ceanothus species. The ground cover when present can be quite diverse, consisting of a blend of perennial and annual grasses, with herbaceous species such as buckwheat (*Eriogonum spp.*), bracken fern (*Pteridium aquilinum* var. *pubescens*) and everlasting (*Antennaria spp.* and *Gnaphalium spp.*) in more open areas. The knobcone pine community often intergrades with the ponderosa pine, mixed oak woodland, and chaparral plant communities.

Mixed Oak Woodlands

Mixed oak woodland communities cover approximately 10,000 acres scattered throughout the park at elevations up to 2,500 feet, although black oak woodland subcommunities can occur at much higher elevations. The lower elevation oak

communities are dominated by black oak, canyon live oak (*Quercus chrysolepis*), and interior live oak (*Quercus wizlisenii*). Small communities of valley oak (*Quercus lobata*) are found near Clear Creek. Higher elevation communities are dominated by black oak and/or canyon live oak with scattered ponderosa pine and other hardwood and conifer species. Redbud (*Cercis occidentalis*) is found in open areas, and shrub understory species include manzanita, toyon, poison oak, wild rose (*Rosa spp.*), and several ceanothus species. Common herbaceous species include wild dandelion (*Agoseris spp.*), Indian paintbrush (*Castilleja spp.*) Indian warrior (*Pedicularis densiflora*), penstemon (*Penstemon spp.*), California Indian Pink (*Silene californica*), iris, monkeyflowers (*Mimulus spp.*), California poppy (*Eschscholzia californica*), milkweeds (*Asclepias spp.*), columbine (*Aquilegia formosa*), woolly sunflower (*Eriophyllum lanatum*), lupine (*Lupinus spp.*) mule ears (*Wyethia spp.*), brodiaea (*Brodiaea spp.*), and yarrow (*Achillea millefolium*).

Blue Oak Grasslands

Blue oak grasslands cover approximately 400 acres within the park. Unlike the other plant communities, the blue oak grasslands appear to have distinct boundaries that are probably a result of soil properties and past land use practices. The dominant species is blue oak (*Quercus douglasii*) that is associated with scattered gray pine and interior live oak. Shrubs are widely spaced and include manzanita, yerba santa, ceanothus, and poison oak. The ground cover includes annual and perennial grasses such as ripgut brome, dogtail grass, starthistle (*Centaurea sp.*), fescues, wild oat (*Avena fatua*), and nut sedge (*Cyperus strigosus*). The blue oak grassland community can be seen in distinct patches on the south-facing slopes along Highway 299 near Crystal Creek Road.

Chaparral

Chaparral plant communities cover approximately 8000 acres in the park. The chaparral plant community varies in species composition and vegetation structure from distinct monocultures to combinations of shrub and small tree species that intergrade with other plant communities. Thick, leathery, oily leaves that form a highly flammable leaf litter layer characterize chaparral species. Such characteristics enable chaparral plants to withstand extremes in temperature and precipitation, as well as the periodic consumption of fire. This broad-leaved community is diverse, ranging from dense, impenetrable thickets to open, mixed shrub-oak woodlands. While chaparral over most of its range is characterized by stand-replacing fire, this may not apply to some of the chaparral in the park, as fire severity and fire effects in prescribed burns have been mixed.

Chaparral communities in the park are dominated by white leaf and greenleaf manzanita, ceanothus species, chamise (*Adenostoma fasciculatum*), toyon, yerba santa (*Eriodictyon californicum*), and poison oak. Oak and pine species are also sparsely scattered throughout many of the drier areas, and occur with some density on wetter sites and north and northeast facing slopes. The thick layer of leaf litter and lack of light results in a sparse herbaceous understory of species such as brodiaeas (*Brodiaea spp.*), wild onion (*Allium spp.*), chaparral honeysuckle (*Lonicera interrupta*), creeping sage (*Salvia sonomensis*), and Indian warrior (*Pedicularis densiflora*).

A montane chaparral plant community occupies the loose, sandy, granitic soils between the 3000 foot elevation and the top of Shasta Bally. This montane chaparral is dominated by greenleaf manzanita, combined with pinemat manzanita (*Arctostaphylos nevadensis*), common manzanita (*A. manzanita*), mountain whitethorn (*Ceanothus cordulatus*), huckleberry oak, and bush chinquapin. Understory species in this community are usually absent, and this community appears to be the result of past crown fire in forest vegetation, as well as logging of mixed conifer forests at high elevations on highly erodible soils.

The park contains about 39,000 acres (16,000 hectares) of mixed conifer forests, oak woodlands, and chaparral. The wetland habitats include a 3,200 acre (1,300 hectare) seasonally managed reservoir and less than 200 acres (80 hectares) of riparian vegetation along the park's many small streams. The park has numerous species of exotic plants such as yellow star thistle (*Centaurea solstitialis*), black locust (*Robinia pseudoacacia*), Himalayan blackberry (*Rubus discolor*), tree of heaven (*Ailanthus altissima*) and scotch broom (*Genista monspessulana*). The park is currently working on reduction or elimination of several priority-target exotic plant species in identified locations to eliminate as much exotic seed spread as possible. Generally, vegetation will increase in areas of the park that are gated and not subject to trampling of plants by four wheel drive vehicles. Native plants and seedlings will be established at selected sites.

Riparian Vegetation

Whiskeytown lies at the confluence of seven perennial tributaries that form one of the largest watersheds flowing into the Sacramento River. Riparian communities cover approximately 4,000 acres and vary in species composition and vegetation structure depending on elevation, steepness of slope, aspect, and quantities and timing of the water source. Although vigorous and well vegetated, little data is available on the vegetation of the riparian communities. Tree species occurring on canyon slopes and seasonal ravines primarily consist of Douglas fir, canyon live oak, dogwood, bigleaf maple (*Acer macrophyllum*), and scattered mixed conifers. On canyon bottoms, the lake edge, and more moist sites tree species include Fremont's cottonwood (*Populus fremontii*), black cottonwood (*Populus balsamifera ssp. trichocarpa*), willow (*Salix spp.*), White alder (*Alnus sp.*), and Oregon ash (*Fraxinus latifolia*).

Understory species are quite variable. Native shrub species include California blackberry (*Rubus ursinus*), wild grape (*Vitus californica*), western azalea (*Azalea spp.*), miner's dogwood (*Cornus sessilis*), spice bush (*Calycanthus occidentalis*), button willow (*Cephalanthus occidentalis var. californica*), snowberry (*Symphoricarpos albus var. laevigatus*), and California wild rose (*Rosa spp.*), with chaparral species such as buckeye and snowdrop bush (*Styrax officinalis*) mixed in along the periphery. The understory is a combination of Indian rhubarb (*Darmera peltata*), grasses such as slender hair grass (*Deschampsia elongata*) and rattlesnake grass (*Briza spp.*), Horsetails (*Equisetum spp.*), sedges, rushes, ferns, cattails (*Typha spp.*), and herbaceous species such as soaproot (*Chlorogalum pomeridianum*), California pipevine (*Aristolochia californica*), buttercups, (*Ranunculus spp.*), phacelia (*Phacelia spp.*), monkeyflower, smartweed (*Polygonum spp.*), mugwort (*Artemisia douglasiana*), miner's lettuce (*Claytonia perfoliata*) and

Montia parviflora), self-heal (*Prunella vulgaris*), dock (*Rumex spp.*), and violets (*Viola spp.*).

The exotic Himalayan blackberry chokes a significant portion of the riparian community. Other common exotic species include black locust (*Robinia pseudoacacia*), cut-leaf blackberry, plantains (*Plantago spp.*), and mulleins (*Verbascum thapsus* and *V. blattaria*).

A willow-scrub riparian plant community can be seen along upper Clear Creek, lower Clear Creek near Peltier Bridge Campground, and Willow Creek. A white alder riparian forest lines streams in deep, steep-sided canyon bottoms above about 2,000 feet, along Boulder Creek, Crystal Creek, and Brandy Creek. A unique yew-willow riparian woodland with California yew (*Taxus spp.*) and a variety of willows is found on Shasta Bally.

Sensitive Plant Species

NPS policy mandates that sensitive species be treated as if they were listed species and this policy is consistent with the statutory duty of the NPS to conserve the scenery, natural and historic objects, and wildlife in national parks and monuments by such means as will leave them unimpaired for future generations (National Park Service Organic Act; 16 U.S.C. 1.).

Currently, the park has documented nine rare plants which are listed on the California Native Plant Society's rare plant list (Table 2). These plant species are not officially listed as Threatened or Endangered by the State of California or the Federal Endangered Species Act, but warrant consideration and protection due to limited distribution, scarcity of individuals, or the likelihood of becoming listed as Threatened or Endangered. If not listed, most federal and California state agencies use the listing system of the California Native Plant Society's website: www.cnps.org

Table 2. California Native Plant Society's Rare Plant List for Whiskeytown NRA.

Family	Scientific Name	CNPS	Park Status
Alismataceae	<i>Sagittaria sanfordii</i>	1B	Verified
Asteraceae	<i>Arnica venosa</i>	4	Verified
Caprifoliaceae	<i>Sambucus mexicana</i>	NONE ¹	Verified
Cyperaceae	<i>Carex geyeri</i>	4	Needs verification
Cyperaceae	<i>Carex vulpinoidea</i>	2	Needs verification
Ericaceae	<i>Arctostaphylos malloryi</i>	4.3	Verified
Liliaceae	<i>Allium sanbornii</i> var. <i>sanbornii</i>	4	Verified
Liliaceae	<i>Trillium ovatum</i> ssp. <i>oettingeri</i>	4	Verified
Liliaceae	<i>Triteleia crocea</i> var.	4	Needs

	<i>crocea</i>		verification
Orchidaceae	<i>Cypripedium fasciculatum</i>	4	Verified
Poaceae	<i>Puccinellia howellii</i>	1B	Verified
Polemoniaceae	<i>Navarretia heterandra</i>	4	Needs verification
Potamogetonaceae	<i>Potamogeton epihydrus</i> <i>ssp. nuttallii</i>	2	Verified
Rosaceae	<i>Rosa pinetorum</i>	1B	Reclassified
Crassulaceae	<i>Sedum paradisum</i>	1B.3	Verified on boundary

¹*Sambucus mexicana* is not a CNPS listed species; however, it is potential habitat for the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

As more and more rare plants are added to the CNPS list of rare plant species, and as new plant species are added to the park's plant list annually, activities proposed in this environmental assessment which involves ground disturbance will be surveyed before project implementation.

By far the rarest species within Whiskeytown is Howell's alkali grass (*Puccinellia howellii*) which is listed by the California Native Plant Society as LIST 1B: rare, threatened, or endangered in California and elsewhere. Since *P. howellii* was recognized as a distinct species, no additional populations have been identified anywhere else to date despite extensive searches of mineral springs in Northern California by Caltrans personnel. In February 2006, a Conservation Agreement for *P. howellii* was signed by the *Puccinellia howellii* Interagency Conservation and Restoration Group to: 1) minimize threats to the species; 2) restore the mineral spring habitat; and, 3) improve the status of *P. howellii* through the expansion of the existing population, discovery of additional populations, and/or the establishment of new sustainable populations. Signatories are confident that implementation of the Conservation Agreement will preclude the need to list this rare plant either by the State of California or the USFWS.

Two additional species of concern within the park include blue elderberry (*Sambucus mexicana*) and McNab Cypress (*Cupressus macnabiana*). McNab Cypress (*Cupressus macnabiana*) is a species of cypress endemic to northern California. Although it is not listed as threatened, endangered, or sensitive by federal or state governments or the California Native Plant Society, the park considers McNab Cypress to be a species of concern due to its limited range and apparent decline within the park. Whiskeytown is the "Type" location for the species – which means Whiskeytown is where the first specimen was collected, described and recognized as distinct from other cypress species. At one point, the largest population in California grew along Clear Creek, downstream from the historic town of Whiskeytown. This area is now beneath Whiskeytown Lake. Many believe that this species is vanishing and separate groves might have diverged genetically and may be distinct subspecies.

Blue elderberry is a species of concern because it is the host plant for the federally-listed threatened valley elderberry longhorn beetle. Several elderberry shrubs grow near Trinity

Mountain Road along Clear Creek. The park is required to protect the elderberry in accordance with guidelines provided by the U.S. Fish and Wildlife Service.

Invasive Plant Species

Invasions by non-native plant species are perhaps the most pressing threat to Whiskeytown, jeopardizing the park's ability to preserve and protect natural resources and cultural landscapes. Nonnative plant species consistently ranked among the highest priorities for biological inventory among the Klamath Network Parks, and was the top ranked vital sign for all three of Whiskeytown's Vital Sign Scoping meetings. The rationale for this is clear – nonnative plant species pose one of the greatest threats to park resources. Table 3 lists NPS policies concerning non-native plants, and Table 4 lists specific goals which support the control of non-native plants.

Table 3. NPS Policies that Support Removal of Non-Native Species

Regulations and Policies	Content
NPS Management Directive No. 038	Preventing Introduction and Spread of Invasive Non-Native Plants: provides guidance for eliminating weeds. It is an important reference for government employees, park concessionaires, permittees, contractors and partners.
NPS Management Policies 2001, 4.4.4	Non-native species will not be allowed to displace native species if displacement can be prevented.
NPS Management Policies 2001, 4.4.4.1	New non-native species will not be introduced into parks, except in specific rare situations
DO-12 Handbook 3.5N, Federal Noxious Weed Control Act	Activities may not be categorically excluded from NEPA if they contribute to the introduction, continued existence, or spread of federally listed noxious weeds
DO-12 Handbook 3.50, Executive Order 13112	Activities may not be categorically excluded from NEPA if they contribute to the introduction, continued existence, or spread of non-native invasive species or actions that may promote the introduction, growth or expansion of the range of non-native invasive species.

Table 4. Specific Park Goals which Support the Control of Non-Native Plant Species.

Regulations and Policies	Content
Whiskeytown NRA General Management Plan (1999)	<p><i>Goal 3: The physical and biological systems of the undeveloped portions of the park approximate early 1800 conditions and processes."</i></p> <p>Actions identified with meeting this goal include:</p> <ul style="list-style-type: none"> • Preserve plant and animal diversity. • Reduce or eliminate exotic plant species such as: Scotch broom, Star thistle, Himalayan blackberry, Tree of heaven, Cowbirds, Feral cats and pigs
Whiskeytown NRA	<i>Goal 5: Whiskeytown contributes to the recovery of</i>

General Management Plan (1999) *threatened, endangered, and sensitive plants and animals.*

Whiskeytown NRA Fire Management Plan (2004) *Goal 2: Use fire to improve wildlife habitat, stimulate biodiversity, maintain healthy watersheds, reduce exotic plants, restore circa 1800 landscapes, and improve forest health.*

Actions identified with meeting this goal include:

- Manage and control the introduction, abundance, and spread of non-native plant species.

The goal of the exotic plant program is to reduce exotic pest plant populations in the park and allow re-colonization by native species. Developed areas along main roads are currently being treated and back country sites will be treated secondarily, working from the least to the most infested areas, which has been shown to be the most effective method (Fuller and Barber 1985).

Within Whiskeytown National Recreation Area there are 195 known exotic plants, of which seventeen are considered invasive and subject to eradication. The priority invasive species are: tree of heaven (*Ailanthus altissima*), giant reed (*Arundo donax*), tumbling oracle (*Atriplex rosea*), yellow star thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), field bindweed (*Convolvulus arvensis*), scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*), English ivy, (*Hedera helix*), Himalayan berry (*Rubus discolor*), Spanish broom (*Spartium junceum*), medusa head (*Taeniatherum caput-medusa*), salt cedar (*Tamarix chinensis*), moth mullein (*Verbascum blattaria*), common mullein (*Verbascum thapsus*), prickly lettuce (*Lactuca serriola*) and vinca (*Vinca major*).

High priority exotic plant species will be surveyed for and treated before any ground disturbing activities proposed in this environmental assessment.

Wildlife and Fish

Mammal species that frequent the park lands near the project sites include black bear, black-tailed deer, raccoon, gray fox, western gray squirrel, California ground squirrel, mountain lion, bobcat, and ringtail. Numerous resident and migratory birds can be found in and around the sites as well. The most common resident species include the Stellar's jay, scrub jay, common raven, acorn woodpecker, hairy woodpecker, northern flicker, Bewick's wren, spotted towhee, black phoebe, and California quail. Bird species that are common seasonally include the band-tailed pigeon, black-throated gray warbler, yellow-rumped warbler, American robin, dark-eyed junco, house finch, Brewer's blackbird, plain titmouse, black-headed grosbeak, and ash-throated flycatcher.

Whiskeytown Lake and streams throughout the park support a large variety of fish, both native and exotic. They include largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), spotted bass (*Micropterus punctulatus*), bluegill (*Lepomis*

Macrochirus), black crappie (*Pomoxis nigromaculatus*), rainbow trout (*Oncorhynchus mykiss*), Kokanee salmon (*Oncorhynchus nerka*), brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), Sacramento pike minnow (*Ptychocheilus grandis*), hardhead (*Mylopharodon conocephalus*), western suckers (*Catostomus occidentalis*), California roach (*Hesperoleucus symmetricus*), and riffle sculpins (*Cottus gulosus*). The California Department of Fish and Game regularly stocks rainbow trout and brook trout in Whiskeytown Lake and some of the perennial streams during the spring and summer months. The lake has also been historically stocked with brown trout, Chinook salmon (*Oncorhynchus tshawytscha*), and Kokanee salmon.

Rare, Threatened and Endangered Species

The Endangered Species Act requires, in part, that the federal government identify, protect, and institute programs to promote the recovery of threatened and endangered species. An endangered species is one in danger of extinction throughout all or a significant portion of its range. A threatened species is one likely to become endangered within the foreseeable future.

Whiskeytown NRA contains two listed fish species, the Sacramento River spring-run Chinook salmon (*Oncorhynchus tshawytscha*) and Central Valley steelhead trout (*Oncorhynchus mykiss*). These anadromous fish species are both listed as “threatened” and both occur only within Clear Creek below Whiskeytown Dam. Since the dam’s creation in 1963, no anadromous fish have been able to access streams above Whiskeytown Dam. None of the fish species found in Whiskeytown Lake are considered threatened, endangered, or sensitive.

The park has one resident federally-listed threatened wildlife species, the northern spotted owl (*Strix occidentalis caurina*). The northern spotted owl has successful fledging records within Whiskeytown National Recreation Area. No suitable habitat exists for northern spotted owls in or near the project sites and the nearest known activity center is more than 1/2 mile southwest of the closest site.

The bald eagle (*Haliaeetus leucocephalus*) is federally protected under the Bald and Golden Eagle Protection Act of 1940. Bald eagles were first documented as nesting at Whiskeytown Lake in 1973. Whiskeytown currently has three nesting pair of bald eagles as well as a substantial wintering population. Bald eagle activity such as perching, foraging, nesting, and roosting is generally limited to the lower elevations of the park and occurs mostly within 2 miles of Whiskeytown Lake. U.S. Fish and Wildlife Service guidelines recommend keeping a distance of ½ mile or greater from active bald eagle nest sites within line-of-site, or ¼ mile or greater from current or historic bald eagle nest sites outside of line-of-site to avoid adverse impacts to nesting bald eagles. None of the project sites are located near current or historic bald eagle nest sites and bald eagle habitat will not be affected by any of the proposed activities.

Whiskeytown National Recreation Area contains potential habitat for the valley elderberry longhorn beetle, although there have not been any documented sightings within the park. Elderberry (*Sambucus mexicana*) is a necessary habitat component for

the beetle but has only been found within the park near upper Clear Creek along Trinity Mountain Road. None of the project sites have elderberry plants nearby.

Visual Resources

Whiskeytown National Recreation Area provides an abundance of scenic opportunities to be enjoyed by Park visitors. Though logging and mining roads transect the park, vegetation growth since the establishment of the Park in 1965 has created a generally intact forest. This forest is unique in the area as most other public lands allow off-road vehicle access, logging, and other road generating activity.

Cultural Resources

Archeological Resources

Numerous archeological inventories have been completed covering approximately twenty-one percent of the park (8,900 acres) with 152 archeological sites currently recorded. Two prehistoric archeological districts within the park boundaries are listed on the National Register of Historic Places (NRHP) including Lower Clear Creek Archeological District (added 1979 - District - #79003812) and the Tower House Archeological District (added 1985 - District - #85003483). Neither of these Districts will be impacted by any of the proposed activities or locations in this EA.

Archeological investigations at Whiskeytown revealed Native American occupation spanning at least 8000 years (Bevill and Nilsson 2001). Prehistoric archeological sites at Whiskeytown consist almost exclusively of habitation sites and artifact scatters. The former are characterized by the presence of dark midden soil, house-pit depressions, diverse artifact assemblages, faunal remains, and, on occasion, human remains. Whereas habitation sites represent long-term seasonal or permanent use, artifact scatters are typically comprised of flaked stone tools and waste flakes, and sometimes ground stone that probably resulted from one or more occupational episodes. The distribution of prehistoric archeological sites at Whiskeytown appears to have been influenced by the occurrence of perennial or reliable intermittent water sources, with most sites found in close proximity to these sources. The majority of recorded prehistoric sites lie between 1000 and 2000 feet in elevation, although this may reflect survey coverage rather than actual settlement preferences.

Historic-period archeological sites at Whiskeytown consist of mining, homesteading, farming/ranching, and logging locations that date back to the California Gold Rush. These activities were initially fueled by the discovery of gold and are reflected by activities that date primarily to the Gold Rush period (1848-1843), the hydraulic mining period (late 1800s), the copper mining period (1884-1919), depression era occupation and mining (1930s), and late historic-period occupation (1940-1960s). Hamusek-McGann et al. (1999) evaluated eighteen mining sites throughout Whiskeytown in conjunction with an Abandoned Mineral Lands project. The Mount Shasta Mine, Orofino/Gentle Annie Mine, Monitor Mine, Desmond Mine, and Ganim Mine were all formally determined to

be eligible for the National Register. None of the proposed work in this EA will impact any of these sites.

The Lower Clear Creek Archeological District consists of six archeological sites located in the Clear Creek watershed below Whiskeytown Dam. The sites consist of prehistoric habitation areas that include house-pit depressions, midden soils, and associated artifact scatters. The primary significance of the district is in the potential for buried and surface deposits to provide comparative data that may contribute to the understanding of regional cultural prehistory, social organization, and the use of available biotic and abiotic resources.

The Tower House Archeological District consists of ten prehistoric sites including habitation locations and artifact scatters near the confluence of Clear, Willow, and Mill Creeks that date to the late prehistoric period (post 700 AD). Several archeological excavations have been conducted at sites within the district resulting in the recovery of thousands of artifacts. The district is significant in its' potential to provide data regarding the initial peopling of the area, interpretation of cultural prehistory and the effect of contact with Euro-Americans.

Ethnographic Resources

Whiskeytown is located in portions of Shasta and Trinity counties, within the traditional territory of the Northern Wintu; therefore, the Native American groups of primary concern are Wintu (Northern Wintun) groups. These groups include the French Gulch (Klabalpom), Keswick (Elpom), Stillwater (Dau-pom), McCloud (Winimem), Upper Sacramento (Nomtipom), Upper Trinity (Nomsus), Bald Hills (Dau-nom), Hayfork (Norelmuk), and Upper McCloud River Valley (Waimuk). The divisions with the closest geographic association to Whiskeytown are the French Gulch (Klabalpom) and Keswick (Elpom) divisions. The Wintu community continues to maintain some of the traditional cultural practices associated with Whiskeytown and seeks the cooperation of park staff in promoting the continuance of these practices through such efforts as the Pe' Lane Bos educational camp, a formalized gathering policy, and consultation efforts on the part of park management with the Wintu community. The primary group with whom the park has consulted is the federally recognized Wintu tribe of the Redding Rancheria. Other Native American groups that the park consults with include the Local Indians for Education (LIFE) and the Pe' Lane Bos Camp. None of the proposed work in this EA will impact historically significant tribal areas.

Socio-Economics

Tourism associated with Whiskeytown, currently averaging 860,000 visitors each year, is economically important to the communities surrounding the park. Hotels, restaurants, grocery stores, and specialty shops cater to the different users of the park, including water sport enthusiasts, sightseers, campers, and hikers. Visitors enjoying the park often return and explore new areas. Visiting friends and family from out of town are often invited to share an experience at Whiskeytown with local residents. Knowing the park has good trails with interesting destinations and a safe environment is critical to tourism. Reduced

criminal activity in the park can strengthen visitor appeal to return and continue to develop positive park experiences.

Park Operations

Park Operations that are affected by the proposed actions are Maintenance and Law Enforcement.

Park Maintenance

Currently, park maintenance crews are responsible for the care and upkeep of park facilities. This includes the daily routine of collecting recyclables and trash from designated trash cans found throughout the park. The park maintenance crews are responsible for roads and trails in the park, maintenance of NPS controlled gates and repair of facilities when vandalism occurs. Installation of new gates in the park will reduce litter pick-up, but vandalism to gates and locks is an on-going issue and requires up keep. The cost of gate repair pales in comparison to the post clean up of marijuana sites that runs into the tens of thousands of dollars.

Law Enforcement

The law enforcement unit for the park currently has ten permanent Park Rangers and one seasonal ranger. Responsibilities of this staff includes search and rescue, emergency medical assistance, assistance with traffic accidents, providing resource protection messages, and maintaining law and order in the park. Increasing resources have been dedicated to marijuana eradication efforts in recent years.

Visitor Use and Safety

The vast majority of visitors to Whiskeytown utilize the lake and its shoreline for their recreational activities. Providing for visitor enjoyment is one of the fundamental missions of the NPS according to the Organic Act of 1916 and Management Policies (NPS 2006). A portion of the park's visitors use the backcountry hiking trails throughout the year, with most use occurring in the spring, summer and fall months. Over 6,000 visitors hike to view Whiskeytown Falls each year. Recreational activities include hiking, mountain biking, equestrian use, swimming, kayaking, sailing, and motorized boating. Long distance trail running and kayaking are becoming increasingly popular activities in the park. Seasonal hunting continues through permits from the California Department of Fish and Game regulated season.

Safety is critical to a positive visitor experience. Accurate directional and informational signs, reasonable grades, sturdy bridges, dry surfaces, highway crossings with adequate sight distances to allow time to cross safely, and warning about natural hazards like stream crossings, poisonous plants, wildlife sightings and uneven terrain, all increase visitor safety and can mean the difference between a pleasant visitor experience or one remembered negatively. Providing for the safety and security of visitors and resources alike is one of the fundamental missions of the NPS.

Environmental Consequences / Impacts

Concept of Impact Analysis

Each alternative is evaluated in terms of the impacts the proposed actions would have on the affected environment described above. The reader is then able to evaluate the relative advantages and disadvantages of each alternative. A description of the methods for determining impacts to an affected environment is listed below, followed by an assessment of the environmental impacts for each alternative. Impacts are measured in terms of type, duration, and intensity. Table 5, at the end of this section, provides a comparative summary of the impacts for each alternative.

Methodology for Assessing Impacts

Topics analyzed in this chapter include: Geology/Soils; Water Quantity/Quality; Vegetation; Wildlife/Fish; Rare, Threatened and Endangered Species, and Sensitive Species; Visual Resources; Cultural Resources; Park Operations; and Visitor Use and Safety.

Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource topic carried forward. Potential impacts are described in terms of type, duration, and intensity. General definitions are as follows, while more specific impact thresholds are given for each resource topic.

- **Type** describes the classification of the impact as either beneficial or adverse, direct or indirect:
 - Beneficial: A positive change in the condition or appearance of the resource or a change that moves the resource towards a desired condition.
 - Adverse: A change that moves the resources away from a desired condition or detracts from its appearance or condition.
 - Direct: An effect that is caused by an action and occurs in the same time and place.
All impacts identified in this document are “direct” unless otherwise stated.
 - Indirect: An effect that is caused by an action but is later in time and farther removed in distance, but is still reasonably foreseeable.
- **Duration** describes the length of time an effect will occur, either short-term or long-term. Because definitions of duration can differ by resource topic, definitions are provided separately for each impact topic.
- **Intensity** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic.

Type of Impact

Adverse: Likely to result in unnatural or detrimental changes to the resource.

Beneficial: Likely to protect, improve, and /or restore the resource.

Duration of Impact

Short-term: Immediate changes to the resource where the effects last one year (season).

Intermediate-term: Immediate changes to the resource where the effects last two to five years.

Long-term: Immediate changes to the resource where the effects last more than five years.

Intensity of Impact

Negligible: Imperceptible or undetectable impacts.

Minor: Slightly perceptible, and limited in extent. Without further impacts, adverse impacts would reverse and the resources would recover.

Moderate: Readily apparent, but limited in extent. Without further impacts, most adverse impacts would eventually reverse and the resource would recover. The impacts are localized in scale.

Major: Substantial, highly noticeable, and affecting a large area. Changes would not reverse without active management. The impacts are landscape-level in scale.

Mitigation of Impacts

Potential impacts to resources may be mitigated by one or more of the following:

General Best Management Practices

- Minimize soil disturbance.
- Litter and duff would be removed from project areas and stored for later replacement over topsoil.
- Topsoil would be removed from areas of construction, stored on site, and replaced at the end of the project. The topsoil would be spread in as near the original location as possible.
- Native vegetation removed during construction would be replanted wherever it is feasible.
- In areas of bare soil, litter and duff from nearby areas will be collected and spread on site. This material will have a seed bank of local genetic material specific to that area.

Sensitive Plant Species

- Prior to commencing site-specific activities associated with any of the proposed activities, a park Ecologist will survey the site for sensitive plant species. The survey will include all areas that will be directly and indirectly impacted. Any

sensitive plant species discovered will be clearly flagged and avoided when possible. If avoidance is impossible, the park Ecologist will be consulted and to develop measures to minimize impacts, such as transplantation, will be examined.

Invasive Plant Species

In an effort to prevent the introduction and spread of invasive plant species, the following Best Management Practices will be implemented:

- Minimize soil disturbance.
- Before any equipment is brought into the park, it will be pressure or steam washed in order to remove seed-containing soil. Examples of equipment are backhoes, tractors, loaders, excavators, dozers, bobcats, wheeled compressors, or trucks and trailers that have traveled off-road. Construction equipment would be inspected by NPS staff prior to entering the parks to ensure compliance with cleanliness requirements and inadequately cleaned equipment would be rejected
- All NPS equipment used for the project will be thoroughly washed off-site to remove invasive plant seed, stems, etc., prior to arriving at the construction area.
- Staff is encouraged to wash equipment that has been off-road before moving it from place to place within the park, particularly when moving from lower to higher elevations.
- Topsoil shall not be imported into the park.
- Construction and restoration materials will be free of invasive weed seeds or other propagative plant parts. Such materials include boulders, soil, sand, gravel, rock, road base, straw, and silt and erosion control materials. Weed-free status may be ensured by pressure washing, steam washing, fumigation, heat sterilization, or certification from the supplier.
- Limit vehicle parking to existing roadways, access routes, or the designated staging area.
- Limit disturbance - no machinery or equipment should access areas outside the construction limits, which would also include the tower construction area, staging area, and existing roadways or access routes.
- In an effort to avoid introduction of non-native/noxious plant species, only native material (e.g., pine needles, leaf litter, etc.) from nearby sites will be used as mulch for erosion control.
- Monitor disturbed areas for up to three years following construction to identify infestations of noxious weeds or non-native vegetation. Treatment of non-native

vegetation would be completed in accordance with NPS-13, *Integrated Pest Management Guidelines*.

Cumulative Impacts

Cumulative impacts are defined in CEQ regulations (40 CFR 1500-1508) as those impacts attributable to each alternative combined with other past, present, or reasonably foreseeable future impacts, regardless of the source. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. However, in order to be considered a cumulative impact, the effects must occur in a common locale or region, contribute to the effects of other actions, impact a particular resource in a similar manner.

Impairment Summary Statement

The National Park Service must consider the impacts of each alternative to determine if the described action would lead to an impairment of resources as discussed in the National Park Service Organic Act and the General Authorities Act. If there would be impairment the action may not be approved. Impairment is an impact that would harm the integrity of park natural and cultural resources and special values explicitly protected in the park's enabling legislation (NPS Management Policies 2006). Not all impacts constitute impairment. Severity, duration, and timing of the impact help determine whether the integrity of a park resource or value would be irreparably compromised.

Impacts

Geology/Soils

Alternative A – No Action

Marijuana cultivation is extremely destructive to the soil profiles in the remote backcountry areas, often on steep slopes that have shallow soil horizons. In camps created for marijuana cultivation, deep benches are dug into the hillside to support these camps and provide level ground for sleeping and cooking. Large networks of social trails are developed leading from the camps to the cultivation areas, disturbing soil profiles and increasing erosion. At cultivation sites, thousands of holes are dug into the soil for planting, disrupting the soil profile and increasing erosion. In the streams, dams are constructed by removing soil and placing the soil in creeks, which increases erosion at the barrow site and the dam location. Additionally, large quantities of fertilizer and pesticides are stored and used at these sites, potentially contaminating soil where these products are used and stored.

Continued operation of non-authorized off road vehicles on abandoned logging and mining roads would continue to negatively impact soils. These roads were never designed with erosion control features and are not maintained with erosion control features. Use of these unmaintained roads cause increased erosion from disruption of the soil profile. Additionally, these roads have increased erosion due to lack of erosion control devices in place causing gullying and erosion of the road surface.

Impacts to soils from increased erosion due to marijuana cultivation activities would continue to be adverse, long-term, and major with this alternative due to the continued establishment of camps, trails, dams, and vehicular access to these areas.

Impacts to soil from storage and use of fertilizers and pesticides at marijuana cultivation sites would continue, and potential contamination to soil from the pesticide and fertilizer will have an adverse, long-term, and minor impact.

Continued operation of non-authorized vehicles on abandoned logging and mining roads would continue to negatively impact soils due to increased erosion due to disruption of the soil profile. Increased erosion from gullying due to lack of erosion control features will continue. The impacts from these conditions are considered to be adverse, long-term, and minor.

Alternative B – Preferred Option

Closed gates would reduce marijuana cultivation, thus reducing soil disturbance on roads from heavy pick-up trucks and automobiles that currently use them for a variety of purposes. Permitted vehicles would continue to use these roads to service utilities they are responsible for maintaining. Closed gates would also reduce erosion associated with marijuana cultivation including establishment of camps, trails, and dams.

Approximately fifty additional locations were identified for barrier closures throughout the park in addition to the nine areas identified for new gates. It is proposed that each area will be evaluated and a decision made as to what type of barrier closure work will be needed to prevent these areas from being accessible to the public. Barrier closures will be a combination of boulders or rocks placed at some locations and/or removal of short sections of road to prevent vehicle traffic in other areas.

Installation of gates requires soil disturbance to create a two foot diameter hole to set the post of the gate. This action is considered adverse, short-term, and negligible in effect.

Installation of gates will restrict access for DTO's, reduce marijuana cultivation, and the erosion associated with it including damage caused by vehicular access to the sites, camp construction, trail development, marijuana planting, and construction of dams. Reduced erosion from these actions is considered a beneficial, long-term, and major impact.

Installation of gates will restrict access for DTO's; reduce marijuana cultivation, and the use of associated chemicals such as pesticides and fertilizers. Reduction of pesticide use and storage will minimize the potential for soil contamination from these products. Reduced use of pesticides and fertilizers is considered a beneficial, long-term, and minor impact.

Installation of gates will restrict access to illegal dumping of trash and hazardous waste behind these gates. Reduction of dumping of the products reduces the potential for contamination of soil where these items are illegally dumped. Reduced potential for soil

contamination from these products are considered beneficial, long-term, and minor in impact.

Removal of road segments (derelict logging and mining roads) that spur from transportation corridors may increase soil erosion and sedimentation from these sites during the first winter rains. Mitigation for this will be mulching the disturbed areas which will reduce the amount of soil erosion and sedimentation. For the first year there will be an adverse, short-term, minor effect due to increased soil erosion and sedimentation from the sites. After the first year, there will be beneficial, long-term, minor effects due to reduced soil erosion and sediment release caused by repeated impacts from unauthorized off-road vehicle use and lack of road erosion control devices.

Cumulative Impacts

Since all construction will occur on existing roadways that were built in the 1950s and 1960s, soils horizons have been already damaged to an adverse condition. Installing the gates will have a beneficial, long-term benefit with moderate intensity. This Alternative will be a positive step towards restoration, compared to the current condition with automobile and truck traffic occurring more frequently.

Conclusion

Alternative A would result in intermediate and long-term impacts to soils that would be destructive to soil profiles in the remote backcountry areas and on steep slopes that have shallow soil horizons. Soil testing, excavation, and restoration would be required to remediate those areas. Impacts to soils would be adverse, long-term and major. Alternative B will further protect park resources from vehicle creep and expansion of illegal social trails, DTO camps and dams, and contamination of soil from dumping. It may serve to deter marijuana plantations since the gates will require marijuana workers to walk a further distance to carry supplies to their illegal cultivation sites.

Mitigation Measures

Conduct road segment removal work during the late spring and summer and fall months so soil disturbance is not occurring during the rainy season and mulch disturbed soils prior to winter rains. Implement BMP's during road segment removal to reduce erosion of soil.

Water Quantity/Quality

Alternative A – No Action

There would be no increased use of water as a result of the implementation of this alternative. The National Park Service would continue to take water for its domestic use related to the operations of park facilities from Whiskeytown Lake and groundwater wells. Water would continue to be diverted for used by the illegal marijuana growers raising the thousands of plants the DTO's cultivate. It is suspected that pollutants are entering streams and Whiskeytown Lake below marijuana sites, and are originating from the bags of fertilizers and pesticides found stored or used in the marijuana sites. The illegal encampments with upwards of 15 men camping in the woods without proper sanitation or toilet facilities will increase the human fecal levels that could lead to a degradation of water quality in groundwater and streams. The amount of sedimentation

to streams would continue at the present rate due to vehicular access, camp construction, trail network development, and dam construction by DTO's. Sedimentation to streams would continue to occur from unauthorized use of abandoned logging and mining roads within the park and from sediment eroding from roads with no erosion control devices due to gullying.

Diversion of water from streams to irrigate marijuana far away from the stream reduces the water quantity within the streams and has an adverse, long-term, minor impact.

The ongoing sedimentation of streams and chemical delivery to streams from pesticides and fertilizers would continue due to DTO's activities and the impacts to water quality would be adverse, long-term, and moderate impact.

Human sanitation issues in the marijuana cultivation areas would continue to be a threat to water quality by introducing human fecal material into streams and groundwater and the impacts are considered adverse, long-term, and minor.

Sedimentation to streams would continue from unauthorized use and absence of erosion control features on abandoned logging and mining roads and the impacts are considered adverse, long-term, and minor.

Alternative B – Preferred Action

This alternative would reduce the ability of the illegal marijuana growers from achieving the levels of production of marijuana discovered to occur from 2001 to 2009 within the park. Removal of opportunities for continued marijuana cultivation could restore natural levels of runoff feeding the small seeps and creeks that have been tapped by the marijuana growers in years past. By restoring full flow in the springs, seeps, and creeks, the stream system's water quantity could be restored.. Human fecal matter would be reduced in drainages near the encampments of marijuana workers if the gates become a deterrent, as it is believed they would. Reduced production of marijuana will also decrease the amount of pesticides and fertilizers used to grow the plants, improving water quality in the impacted watersheds. Restricting access to areas will decrease the amount of illegal dumping of trash and hazardous waste. By reducing the amount of trash and hazardous waste to these areas also reduces the probability of these contaminants from entering surface and ground water. In areas where road segments will be removed, increased sedimentation to streams will occur during the first winter rains. Utilization of BMP's will reduce the amount of sediment delivered to the streams during these storms.

The action of restricting access to marijuana growers will have a beneficial, long-term, minor effect to water quantity by removing water diversions and allowing springs, seeps, and streams to flow naturally, increasing water quantity.

The action of restricting access to marijuana growers will have a beneficial, long-term, minor effect to water quality by reducing the amount of sediment fertilizers, pesticides, and human fecal material delivered to streams in areas of marijuana cultivation.

The action of removal of road segments will reduce erosion and delivery of sediment to streams and have an adverse, short-term, minor impact after the first winter rains mobilize disturbed soils. After the first years storms, the actions of road segment removal will have a beneficial, long-term, minor impact.

Cumulative Impacts

The presence of marijuana growers in remote drainages of Whiskeytown's forest have resulted in increases in untreated human fecal matter being left behind. Although current contamination levels do not demonstrate impairment of water resources to the Regional Water Quality Control Board, increased contamination could drive levels above the acceptable threshold. This is a significant concern in the park. If over time this activity continues and human use is unchecked, there exists no proper way to dispose of human waste.

Conclusion

Implementation of Alternative A would result in greater use of water for continued marijuana operations, irrigation systems, and diversions to take care of the illegal encampments. Minor to moderate, short-term and long-term impacts could adversely affect water quality and increase water use. Implementation of Alternative B would do the most to protect water quality by making it more difficult to supply the marijuana plantations. There would be reduced impairment of water resources or values as a result of the implementation of Alternative B, installation of gates. Implementation of Alternative B would be beneficial, with short term adverse impacts during construction, but with negligible to minor impacts over the long-term. Alternative A is considered to be adverse and detrimental to the park resources with both short term and long-term impacts with moderate to major impacts that can be noticeable affecting large areas of the park and would require active management to correct.

Mitigation Measures

In order to minimize potential adverse impacts to the water quality of park streams, the park will implement Best Management Practices for erosion control, such as silt fences, straw mulch and native seeds for revegetation in areas where ground disturbance has occurred.

Vegetation

Alternative A – No Action

Under this alternative, impacts to native vegetation and plant communities would continue approximately at current rates. Current impacts to vegetation include substantial removal, trimming and active control through use of saws and herbicides by marijuana growers at various locations throughout the park. The area impacted is the number of acres ranging from 1 to 10 acre plots. This type of activity is considered adverse, with both short term and long-term changes to the resources where effects can last more than five years. The intensity of these changes are moderate to major and can be highly noticeable to the public (gaps in vegetation and manicured vineyard-like manipulations to areas of the oak woodland community).

Negligible, long-term, adverse impacts to vegetation would also occur from non-authorized off-road vehicle use on abandoned logging and mining roads. These impacts are localized, however, since off-road travel is generally restricted to the first few meters on any abandoned roadway visible to the public.

Alternative B – Preferred Action

Under Alternative B, impacts to native vegetation would be minor, long-term and beneficial as park resources would have an opportunity to be restored in areas where gates are installed and abandoned roads are blocked. Installed gates will deter the use of administrative roadways by marijuana growers and limit the clearing of native vegetation to establish grow sites within Whiskeytown. Placement of boulders and restoration of some abandoned roadways will also deter their use in illegal activities related to marijuana and off-road vehicle use. These deterrents will prevent vehicles from repeatedly trampling vegetation and allow areas to revegetate.

Cumulative Impacts

Alternative A could have varying degrees of impacts to native vegetation dependent if the marijuana growers continue to use the park for production of drugs. These impacts, trimming, cutting, herbicidal poisoning and the constant threat of wildfire from illegal encampments could produce adverse, intense and moderate to major impacts with substantial, highly visible impacts, affecting a large area of the park. Additionally, impacts from off-road vehicle use on abandoned roads while individually negligible, could raise to the minor impact threshold if left unchecked. Park staff have documented approximately fifty locations where abandoned roadways are visible as scars on the landscape and are occasionally accessed for illegal activities. Alternative B, with more restrictive management and access, augmented by ranger patrols, surveillance and support from outside law enforcement activity, could curb or significantly reduce the potential for continued use of marijuana cultivation in the park. It would also reduce deter individuals from using abandoned roadways for a variety of illegal activities.

Conclusion

The potential for damage to vegetation varies significantly between the two alternatives. Impacts to vegetation and plant communities would continue at current rates if Alternative A is implemented. Current impacts include removal, trimming, and use of saws and herbicides by marijuana growers throughout the park. These impacts are considered adverse, with short and long-term changes to the resources where effects can last more than five years.

Implementation of Alternative B could preserve the park's vegetation and allow areas previously disturbed by marijuana growing and off-road vehicle use to be restored. Vegetation would not be impacted by marijuana growers if their access is further restricted within Whiskeytown.

Mitigation of impacts:

Potential impacts to resources from implementing the action alternative may be mitigated by performing all ground disturbing activities during the dry season (May through October) and implementing Best Management Practices for erosion control, such as silt

fences, straw mulch and use of native seeds for revegetation in areas where ground disturbance has occurred.

Wildlife/Fish

Alternative A – No Action

Under this alternative, impacts to wildlife communities would continue approximately at current rates. Though no formal studies have been conducted, it is believed that loss of habitat and increased nutrient loads in streams could impact nesting bird species, riparian plants and animals, and resident fish communities. These impacts are believed to be long-term, minor to moderate, and adverse. Marijuana cultivation in Whiskeytown includes clearing of native vegetation, and the application of pesticides and fertilizers. The clearing of vegetation reduces the availability of habitat for an unknown number of species. Given the relatively small percentage of the park impacted by marijuana, these impacts are likely negligible as the species are merely displaced. The impact of the nutrient loading from fertilizer use and animal health from pesticide use is less clear. Many of the chemicals used by the marijuana cultivators are manufactured outside the United States as they are not legal for sale within this country. These materials are considered hazardous and may present minor to moderate impacts to the environment if marijuana cultivation is allowed to continue unchecked.

Marijuana cultivators are also known to hunt wildlife illegally while conducting cultivation operations within the park. Animal carcasses, including those of deer and bear, are often found in marijuana sites after they are raided by Park Rangers.

Alternative B – Preferred Action.

Wildlife would benefit from the installation of gates on administrative roads, as well as, the installation of barriers on abandoned roadways. These activities would reduce the ease of access for individuals wishing to engage in illegal activities. These actions would prevent habitat destruction and illegal hunting and provide long-term, minor to moderate, beneficial impacts.

Cumulative Impacts

It is not anticipated that the implementation of either action alternative combined with other past, present, or reasonably foreseeable park actions would result in more than negligible cumulative impacts on wildlife and/or fish.

Conclusion

Under Alternative A disturbance to wildlife will continue at current levels, though cumulative impacts from the activities related to marijuana cultivation could cause minor to moderate impacts and animal species. Alternative B slightly increases benefits in both the short term and long-term by decreasing human disturbance of wildlife.

Mitigation Measures

It is not anticipated that implementation of any action called for in this document would require mitigation of impacts to wildlife resources.

Rare, Threatened and Endangered Species, and Sensitive Species

Alternative A – No Action

Under this alternative, impacts to Rare, Threatened and Endangered Species, and Sensitive Species, would continue at current levels. Current impacts to Special Status Species consist of negligible to minor disturbance to these species by the presence of people throughout the park.

Though no formal studies have been conducted, it is believed that loss of habitat and increased nutrient loads in streams could impact listed wildlife species such as fall-run Chinook salmon as well as steelhead and plants such as *puccinellia howellii*. These impacts could be long-term, minor to moderate, and adverse. Marijuana cultivation in Whiskeytown includes clearing of native vegetation, and the application of pesticides and fertilizers. The clearing of vegetation reduces the availability of habitat for an unknown number of species. Given the relatively small percentage of the park impacted by marijuana, these impacts are likely negligible, although fish would be more susceptible as they have no way to avoid the impacts to their habitat. The impact of the nutrient loading from fertilizer use and animal health from pesticide use is less clear. Many of the chemicals used by the marijuana cultivators are manufactured outside the United States as they are not legal for sale within this country. These materials are considered hazardous and may present minor to moderate impacts to the environment if marijuana cultivation is allowed to continue unchecked.

Alternative B – Preferred Action

Under this alternative, impacts to Threatened, Endangered, and Special Status Species would slightly improve compared to Alternative A. Alternative B slightly increases benefits in both the short-term and long-term by decreasing human disturbance to these species.

Rare, threatened and endangered species, and sensitive species would benefit from the installation of gates on administrative roads, as well as, the installation of barriers on abandoned roadways. These activities would reduce the ease of access for individuals wishing to engage in illegal activities. These actions would prevent habitat destruction and provide long-term, minor to moderate, beneficial impacts.

Cumulative Impacts

It is not anticipated that the implementation of either alternative combined with other past, present, or reasonably foreseeable park actions would result in cumulative impacts on rare, threatened, endangered, and/or sensitive species.

Conclusion

Species considered rare, threatened or endangered, or sensitive at Whiskeytown have primarily become that way through development and alteration of habitat outside the park. No known species have become listed or proposed as a result of actions within the park. Park managers are tasked with treating listed, proposed and rare species as if they were all listed and park actions are routinely evaluated for their potential effects on rare

species. Under both alternatives, there would be no impairment of special status wildlife species or the values associated with them.

Mitigation Measures

It is not anticipated that implementation of any action called for in this document would require mitigation of impacts to rare, threatened and endangered, or sensitive species.

Visual Resources

Alternative A – No Action

The No Action Alternative would continue impacts to the visual resources of Whiskeytown National Recreation Area as the non-natural features of abandoned logging and mining roads would remain visible from the parks roadways. While the individual impact of each individual road scar on the landscape is negligible, approximately fifty abandoned road scars have been identified. These roadways were poorly designed, channel water, attract off-road vehicle operators and illegal dumping, and as a result will continue to have a long term negative visual impact. This visual distraction may detract from the overall visitor experience for individuals wishing to recreate in an intact natural forest. The roadways are in contrast to the natural setting.

Alternative B – Preferred Action

Effects of barriers to prevent further impacts to abandoned roadways, and the restoration of certain abandoned roadways visible from the parks existing road network, would be long-term, minor and beneficial overall. Preventing off-road vehicle traffic impacts and restoration will allow these areas to revegetate and be less visible to visitors and those wishing to use these features for illegal activities. There could be a short-term, negligible adverse effect from large boulders placed to prevent access to the abandoned roadways. These boulders would eventually be removed once an area revegetated. Mitigation measures would be used to reduce the visual impacts from these boulders, however.

The placement of gates on administrative roadways may have a negligible, long-term adverse impact on visual resources. The gates will be in contrast to the natural setting. However, mitigation measures will minimize the visual impact of these gates.

Cumulative Impacts

Whiskeytown National Recreation Area provides an abundance of scenic views to be enjoyed park visitors. Regionally, visual resources are affected by development in the park, which has a moderate, adverse, long term effect. Implementation of the park Fire Management Plan will have a moderate, beneficial, and long term effect to visual resources. Cumulatively, the no action alternative and action alternative would only have an inconsequential incremental change when considered with the fire management plan.

Conclusion

Under Alternative A, minor, adverse impacts to the visual resources at Whiskeytown are expected to continue. Overall, the actions proposed in Alternative B are expected to be

beneficial to the scenic quality of the park, since the visual impacts of non-natural features would be minimized on the landscape.

Mitigation Measures

Rock barriers placed under the action alternative will be no larger than necessary to impede vehicle traffic, and will be of a chemical composition consistent with the geology of the Park. Boulders should be chosen that blend into the landscape, and are not a visually obtrusive. Gates placed under the action alternative will be painted brown in color, to blend into the surroundings. Reflectors used to ensure gates are visible to motor vehicle operators at night will be of a type that is inconspicuous in daylight.

Cultural Resources

Alternative A – No Action

It is unknown if any cultural sites within Whiskeytown are currently impacted by illegal activities associated with marijuana cultivation, illegal dumping or off-road vehicle operation. Gates will not be installed under this alternative and archeological sites will remain unknown in areas that have not been surveyed. There are no archeological surveys anticipated in the near term for areas identified as proposed for gate installation or road removal. Archeological sites that may exist will remain unknown and could be impacted if not surveyed.

Alternative B – Preferred Action

All of the areas where gates have been proposed have been surveyed for archeological resources. There are no known archeological sites or other culturally significant resources in these areas. The proposed for six rock barriers and one abandoned road removal listed in this EA are all in areas that have been previously surveyed for archeological resources. Any additional rock placements or road removals undertaken that are outside of previously surveyed areas will require surveys §106 review prior to any ground disturbance.

The abandoned roads targeted for restoration are primarily associated with logging operations conducted prior to the creation of the Park in 1965. While it is possible that some of these roads may be more than fifty years old, they are not considered culturally significant landscape features. These roads generally have no destination, are poorly designed, and are negatively impacting the overall park landscape.

The undertakings described in this document are subject to §106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 et seq.). The proposed actions for the sites analyzed in detail in this document meet the criteria for streamlined review process under the terms of the Programmatic Agreement between the Advisory Council on Historic Preservation, the National Conference of State Historic Preservation Officers and the National Park Service (2008). Since the Park does not propose immediately addressing all the abandoned logging and mining road locations if the action alternative is selected, not all of these locations have been analyzed in detail for potential impacts to cultural resources. As the park moves to undertake access projects at these additional locations, park staff will conduct archeological surveys where needed and consult with

the Redding Rancheria Tribe to identify any traditional sites. Areas with any cultural resources discovered will be avoided. However, based on the analyses conducted thus far, it is anticipated that there will be no impacts from any proposed actions on cultural resources.

Cummulative Impacts

It is not anticipated that the implementation of either alternative combined with other past, present, or reasonably foreseeable park actions would result in cumulative impacts on cultural resources within Whiskeytown National Recreation Area.

Conclusion

Under Alternative A, archeological sites will remain unknown in areas that have not been surveyed. It is unlikely any additional surveys will be conducted in areas identified as proposed for gate installation or road removal. Arch sites that may exist will remain unknown and could be impacted if not surveyed.

Alternative B will protect any sites identified prior to construction activities. There are no known archeological sites or other culturally significant resources in these areas. The proposed for six rock barriers and one abandoned road removal listed in this EA are all in areas that have been previously surveyed for archeological resources. Overall, no impacts are expected, as all sites will be protected or mitigated.

Mitigation Measures

No work will be done until the proposed locations have been surveyed for cultural resources. Known sites will be avoided by moving the locations of proposed work, or mitigating if possible.

All Section 106 of National Historic Preservation Act requirements will be completed prior to any gate installation, barrier placement, or road removal with the potential to affect cultural resources.

All work will stop if any new archeological resources are discovered during the project work.

Park Operations

Alternative A

The park will continue to maintain facilities and make repairs to minimize damage to roads, sewer treatment facilities and water plants. Non-gated roads will continue to be used for illegal activities, such as marijuana cultivation, dumping of garbage and appliances and hazardous waste. Impacts would be long-term, minor and adverse and make it likely that cumulative impacts would occur and increase the burden on an already-stretched Maintenance staff.

Despite the addition of new Park Rangers to the park staff, the law enforcement staff will be forced to work harder to deter illegal marijuana growing and dumping of vegetation

and trash in the park. Impacts to law enforcement, for preventing marijuana cultivation is currently long term, moderate to major and adverse.

Alternative B

Under Alternative B, Maintenance workers should have a reduced amount of trash removal since the gates, barriers and restoration projects on abandoned roads will prevent illegal dumping on roads currently open as is presently occurring. Maintenance workers should be able to work in a safer environment since the gates will serve as a deterrent to the DTO's cultivating marijuana in Whiskeytown.

With gates and barriers in place, law enforcement rangers hope to deter illegal activity from marijuana cultivators, individuals dumping illegally in the park, and unauthorized off-road vehicle operators on abandoned roadways. Displacement of these activities may provide negligible to minor, long term, beneficial impacts to the law enforcement staff as they will be able to focus on other locations and types of illegal activities.

Cummulative Impacts

Cumulatively, there are a variety of past, present, and reasonably foreseeable activities associated with illegal marijuana cultivation that could have adverse, long-term and moderate to major impacts to park resources and visitor experiences. A park without the impact of marijuana cultivation would be more aligned with natural processes and vegetation and wildlife would not be adversely impacted by the illegal growing activities.

Conclusion

Under Alternative A, the park will continue to maintain facilities and make repairs to minimize damage to roads, sewer treatment facilities and water plants. Non-gated roads will continue to be used for illegal activities, such as marijuana cultivation, dumping of garbage and appliances and hazardous waste. Park law enforcement rangers and maintenance personnel will need to spend more of their time cleaning up areas that have had trash dumped illegally and where marijuana cultivation has taken place.

Alternative B would result in the installation of gates throughout the park on administrative roads which would limit some visitors who wish to drive their vehicles into the woods. While some 45 miles of dirt roads will remain open to the public for vehicle use in the park's forest, some individuals may perceive the gates as an adverse impact, while other visitors may find the roads safer and more enjoyable for riding horses or bicycles as trails without the concern of a motor vehicle meeting them on the road. Critical to this strategy is the continual effort by law enforcement rangers to keep marijuana cultivators off park lands.

Visitor Use and Safety

Alternative A – No Action

Because nearly all the areas slated for proposed gate installation are administrative sites and the visiting public is not encouraged to enter these areas, there will be little to no change in visitor use at Whiskeytown National Recreation Area. The no action

alternative will keep the current road system as it presently exists, with the ten proposed gate areas remaining open and unrestricted. It is rare, but the likelihood of visitors and park employees coming in contact with marijuana cultivators will be more likely if the gates are not installed. More likely, park employees will have to remove illegal campers, collect trash and home appliances that are dumped on the back roads of Whiskeytown. Vandalism will occur as it has in the past with tampering of the park's water treatment facilities, vandalism to park residence and periodic theft of government and personal property.

South Fork Mountain Road was closed to vehicle traffic in 2009 except during hunting season to prevent the transportation of supplies and personnel to the upper reaches of the road and access to the drainages below, such as the Whiskey Creek arm of Whiskeytown Lake. A gate has been on South Fork Mountain Road for many years and been closed periodically but is still open to hiking, mountain biking, and equestrian use when it is closed. The closure of this road to motorized vehicles has resulted in a beneficial impact that has protected, improved, and/or enhanced the resource and visitor experience since hikers, bicyclists, and equestrians do not have to concern themselves with as many vehicles as in the past. The protection of the Telecommunications towers on the Bureau of Land Management (BLM) lands has also been beneficial with a road closure keeping most vandals out of the area so equipment will not be vandalized as it has been in the past. Many of the users of South Fork Mountain Road are using the road for physical exercise (bicyclist, trail runners, etc) and the gate has likely enhanced their experience with less motorized traffic.

Alternative B - Preferred Action

Under this alternative, the ten gates would be installed and short sections of abandoned roads would be removed or barriers placed to prevent access. The gated roads will have a negligible impact since all are used nearly exclusively by utility service trucks, park personnel, and illegal service providers to the marijuana plantations. This will be a long-term impact and may have major implications to the marijuana plantations growers, forcing them to go elsewhere or use more open areas for drop-offs of supplies and equipment.

While facilities will need occasional maintenance, the park will be safer with benefits to the public once the gates are installed.

Cumulative Impacts

Because there is no construction or rehabilitation associated with the no action alternative, and no attempt to attract visitors to the administrative sites, the cumulative impact of this alternative's actions on Visitor Use and Safety, will likely have adverse impacts on Visitor Use and Safety due to the increase of criminal activity in the backcountry of the park. Also, the duration of the no action alternative may be long-term since the criminal activity is becoming embedded in the park's backcountry. This is based on seven years of raids throughout the park specifically targeting the marijuana plantations, and the activity is increasing in size and number of plantations. Without taking action to close the administrative roads, moderate to major impacts could be

perceived by the public when areas of the park are avoided by the public due to fear of encountering marijuana growers. The impact of trash can be mitigated by park maintenance staff removing the trash when discovered.

Some conflicts may occur for the hiker, equestrian, bicyclists and driver of a motorized vehicle when coming upon a gated road. The motorized vehicle operator will not be able to proceed via his/her vehicle and this will likely constitute a minor to moderate, long-term, adverse impact to visitor use. Vehicle operators, if wishing to continue into the park, will have to walk, ride a bicycle or take a horse past the closed gate.

Conclusion

Since there will be no major improvements to the administrative roads or the four trailheads, it can be surmised that vandalism and exploration of opportunities to conduct illegal activities will continue to occur under Alternative A. This, in turn, will have a moderate to major localized adverse impact to park resources and administrative sites. Increased staffing of permanent law enforcement rangers was implemented during the summer of 2009 and will off-set some of the past illegal activities if the level of activities remains constant. Vigilance will serve as a major deterrent; however, it is believed the gates would provide 24/7 protection and complement the ranger patrol shifts that only cover a portion of a day. This alternative is not expected to solve the problems of dumping, nor decrease significantly illegal activity at night in the remote back roads that serve the park's administrative sites. Trash, broken bottles, and a degraded riparian area will continue at specific locations.

Visitors will be encouraged to hike or bicycle up South Fork Mountain Overlook. Also, telecommunications towers will be further protected by keeping vandals from the area.

Under Alternative B, visitor safety will be increased by closing the roads where gates are proposed by gating them to make it more difficult for the Mexican Cartel to use Whiskeytown as a marijuana plantation. While some visitors may be adversely impacted by not being able to access high vistas outside of the park on BLM land as they can now, the park lands will be safer with a reduction in the use of park lands for marijuana cultivation. Typically, vandals use motorized vehicles to transport spray paint, weapons and beer kegs to these remote areas. Arsonists also use motorized vehicles almost exclusively to start fires, relying on vehicles to leave the area after the wildfire has been ignited.

It is anticipated that this action will not be a major impact to visitors and will be negligible to all, since visitors seldom visit these administrative areas that are proposed for gating.

Implementation of Alternative B will have beneficial, long-term benefits to the park's maintenance program, especially once the initial investment of construction and installation are completed. This should mean less work for the Maintenance Division, less roads to grade and maintain, and less trash and appliances to collect and haul to the county landfill.

Mitigation Measures:

Education to park visitors about the marijuana plantations and public safety will increase visitor awareness and personal safety.

Table 5. Comparative Summary of Environmental Impacts

Impact Topic	Alternative A – No Action	Alternative B – Proposed Action/Preferred Alternative
Soils and Geologic Resources	Intermediate and long-term impacts to soils would be destructive to soil profiles in the remote backcountry areas and on steep slopes that have shallow soil horizons. Soil testing, excavation, and restoration would be required to remediate those areas. Impacts to soils would be adverse, long-term and major.	<p>Closed gates would reduce marijuana cultivation, reducing soil disturbance on roads from heavy pick-up trucks and automobiles that use them for a variety of purposes. Permitted vehicles would continue to use these roads to service utilities they are responsible for maintaining.</p> <p>Installing the gates and removing sections of abandoned roads would be a positive step toward restoration and protection of park resources from frequent truck traffic and may serve as a deterrent to marijuana growers who would have to walk a further distance to carry supplies to illegal cultivation sites.</p>
Water Resources	<p>Water from streams would continue to be used by illegal marijuana growers for raising the plants they cultivate. Many of these creeks are polluted by fertilizers and pesticides found in marijuana sites and which often end up in Whiskeytown Lake.</p> <p>Illegal encampments without proper sanitation and toilet facilities will increase human fecal levels the could lead to a degradation of water quality in streams and lead to impairment of Whiskeytown Lake. Sedimentation to streams would continue at present rate or increase and impacts to water quality would be adverse</p>	<p>Marijuana production would likely be reduced, which could restore natural levels of runoff feeding the small seeps and creeks that have been tapped by marijuana growers in years past. With full flow in the drainages of the park, the stream system's water quality could be restored over time allowing invertebrates and amphibians to re-populate the system. Human fecal matter would be reduced in drainages near illegal encampments.</p> <p>Impacts would be beneficial, minor, and long-term if gates become a deterrent, as it is believed they would.</p>

	and long-term where illegal activities occur.	
Vegetation	<p>Impacts to vegetation and plant communities would continue at current rates. Current impacts include removal, trimming, and use of saws and herbicides by marijuana growers throughout the park. These impacts are considered adverse, with short and long-term changes to the resources where effects can last more than five years.</p> <p>The intensity of changes can be highly noticeable to the public (gaps in vegetation and manicured vineyard-like manipulations to oak woodland community.</p>	<p>Most impacts would be limited and park resources would have an opportunity to be restored in areas where gates and barriers are installed. Vegetation would not be impacted if marijuana growers are not able to establish grow sites within Whiskeytown, and if off-road vehicles drivers are restricted from going off established roadways with barriers.</p> <p>With more restrictive management and access, augmented by ranger patrols, surveillance and support from outside law enforcement activity could curb or significantly reduce the potential for continued use of marijuana cultivation in the park.</p>
Wildlife	<p>Wildlife will continue to use the sites as they presently do. Current impacts include minor to major disturbance to nesting bird species. Impacts to resident fish species are negligible and would continue at current rates.</p>	<p>Wildlife would benefit from this alternative in both the short and long-term since human disturbance would be lessened.</p>
Threatened and Endangered Species – Fish and Wildlife	<p>Impacts to Rare, Threatened and Endangered species would continue at current levels. Current impacts consist of negligible to minor disturbance to these species by the presence of people throughout the park.</p> <p>Impacts to the park’s listed endangered fish species, Chinook salmon, could occur from the runoff of pesticide-laden water into the spawning habitats of these fish.</p>	<p>Impacts would slightly improve compared to Alternative A. Benefits would be slightly increased in both the short and long-term by decreasing human disturbance to these species.</p> <p>Susceptibility to pesticides may be reduced due to the decreased flow of chemicals into the spawning areas of salmon.</p>
Threatened and Endangered Species -	No impacts are expected, as there are no T&E plant species	No impacts are expected, as there are no T&E plant species in the

Plants	in the project area	project area
Visual Resources	Continued visual impacts would be experienced. Non-natural features of abandoned logging and mining roads would remain visible from the parks road system.	Abandoned roadways would be blocked or restored. These areas would be revegetated so the old roads would not be visible to the public.
Cultural Resources	<p>Archeological sites will remain unknown in areas that have not been surveyed. Unlikely any additional surveys will be conducted in areas identified as proposed for gate installation or road removal.</p> <p>Arch sites that may exist will remain unknown and could be impacted if not surveyed.</p>	<p>No work will be done until the proposed locations have been surveyed for cultural resources. Known sites will be avoided by moving the locations of proposed work, or mitigating if possible.</p> <p>All Section 106 of National Historic Preservation Act requirements will be completed prior to any gate installation, barrier placement, or road removal with the potential to affect cultural resources.</p> <p>All work will stop if any new archeological resources are discovered during the project work.</p> <p>Overall, no impacts expected, as all sites will be protected or mitigated.</p>
Park Operations	<p>The park will continue to maintain facilities and make repairs to minimize damage to roads, sewer treatment facilities and water plants. Non-gated roads will continue to be used for illegal activities, such as marijuana cultivation, dumping of garbage and appliances and hazardous waste</p> <p>Park law enforcement rangers and maintenance personnel will need to spend more of their time cleaning up areas that have had trash dumped illegally and where marijuana cultivation has taken place.</p>	While facilities will need occasional maintenance, the long-term benefit will be beneficial once the gates are installed.
Visitor Use and	Current road system will	Ten gates would be installed and

Safety	<p>remain intact, with nine proposed gate areas remaining open and unrestricted. More trash will be dumped and more vandalism will occur to park residence, and periodic theft of government and personal property. Duration may be long-term since criminal activity will become embedded in park's backcountry. Public may not feel safe in certain areas of the park due to fear of encountering marijuana growers.</p>	<p>short sections of abandoned roads removed. May force marijuana growers to go elsewhere or use more open areas for drop-offs of supplies and equipment.</p> <p>Visitor safety will be increased by gating the roads proposed for closure.</p> <p>Some conflicts may occur for the hiker, equestrian, bicyclists and driver of a motorized vehicle when coming upon a gated road. Gated roads will have negligible impact since all are used by utility service vehicles, park personnel, and illegal service providers to the marijuana plantations.</p>
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Consultation and Coordination

The National Park Service has followed a public process to identify the issues and concerns related to the installation of gates and removal of abandoned roads within Whiskeytown National Recreation Area. From the initial scoping sessions in 2006 with members of the public and other agencies, two alternatives were developed, analyzed and presented to the public. Public scoping responses aided in the preparation of the EA.

The EA will be sent to a list of organizations that the park maintains that have interest in park projects. Hard copies for review will be available at the Redding Public Library, the park Visitor Center and upon request by the public.

Consultation has been initiated with the Redding Rancheria Tribe, to ensure all actions proposed in this document do not conflict with any tribal cultural site. No impacts to tribal cultural resources are expected, but mitigation measures will be added should any be identified. Park staff worked with NPS Pacific West Regional Office to develop strategies presented in this document to identify, assess, and mitigate the effects of the undertaking on cultural resources. These strategies ensure this document meets the requirements of applicable Federal law (The National Historical Preservation Act, as amended) and regulations (36 CFR Part 800).

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Appendix A- Draft Impairment Determination

The following resources are expected to experience impacts from the implementation of the preferred alternative: Geology/Soils, Water Quantity/Quality, Vegetation, Wildlife/Fish, Rare, Threatened, Endangered or Sensitive Species, and Visual Resources. These resources all currently experience adverse impacts from activities related to marijuana cultivation, illegal dumping, and unauthorized off-road vehicle operation. The actions proposed in the preferred alternative are expected to bring about long-term negligible to moderate beneficial impacts to all of the above listed resources.

As described in the description of the selected alternative and the Mitigation Measures and Monitoring sections, all practical means to avoid or minimize environmental harm from the selected alternative have been adopted. In addition, none of the impacts related to the implementation of the selected alternative will affect a park's resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; key to the natural or cultural integrity of the park; or identified as a goal in the park's general management plan or other relevant NPS planning documents. Therefore the preferred alternative will not result in the impairment of park resources or values or violate the NPS Organic Act.