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REPLACE CHALONE CREEK BRIDGE

ENVIRONMENTAL ASSESSMENT and BIOLOGICAL ASSESSMENT for the threatened CALIFORNIA RED LEGGED FROG (*Rana aurora draytonii*)

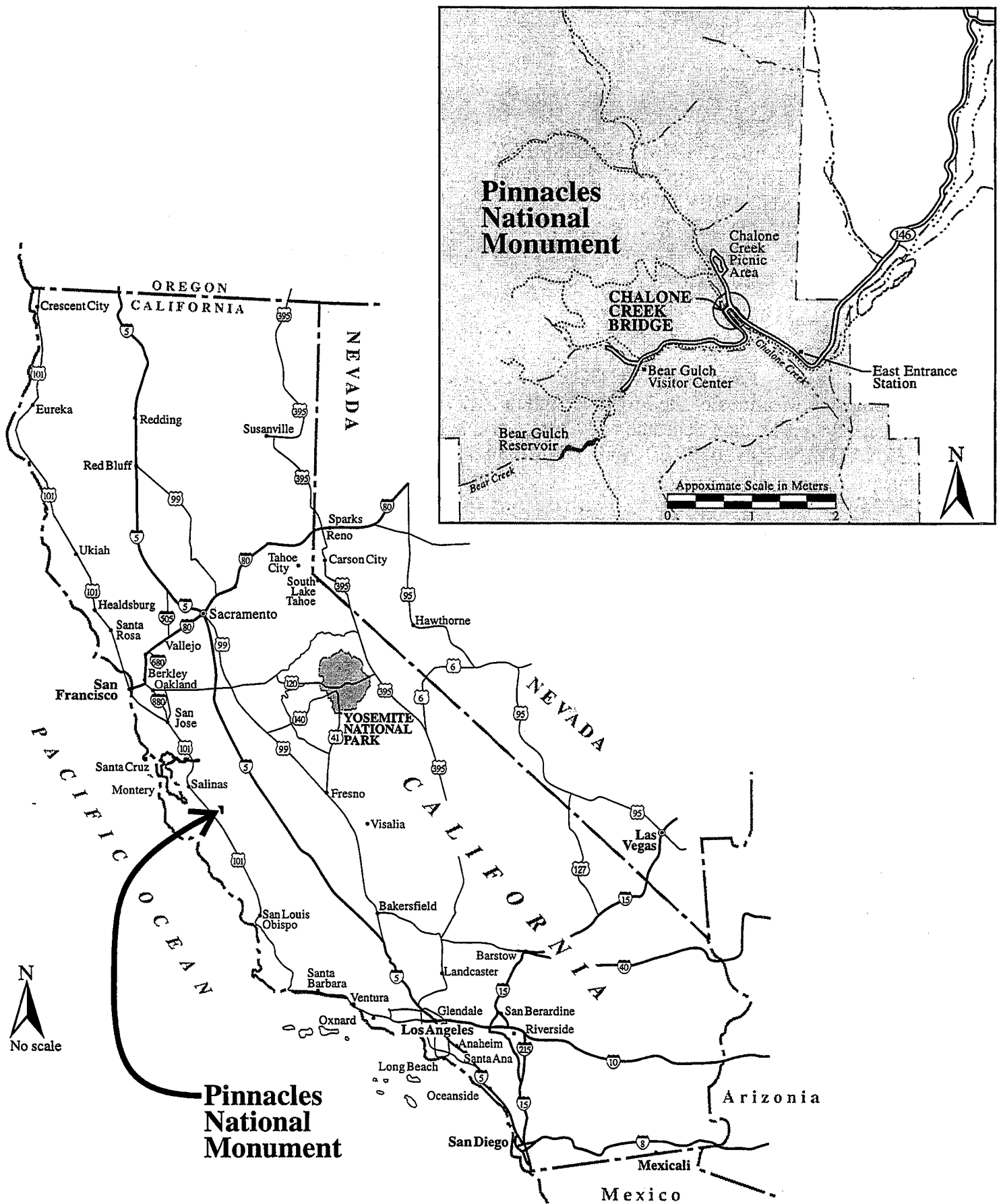
July 1998

PINNACLES NATIONAL MONUMENT • CALIFORNIA

UNITED STATES DEPARTMENT OF THE INTERIOR • NATIONAL PARK SERVICE • DENVER SERVICE CENTER

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REGION AND PROJECT LOCATION

Pinnacles National Monument

United States Department of the Interior / National Park Service
DSC/July '98/114/20,015

PURPOSE AND NEED

The National Park Service proposes to construct a permanent replacement bridge (see Site Plan and Preliminary TS&L Elevation Sketch) spanning Chalone Creek at Pinnacles National Monument, San Benito County, California (see Regional and Area Maps). This action is needed because the original bridge was washed out in February, 1998, and replaced with a temporary single lane Bailey bridge in March, 1998. The Chalone Creek bridge is a critical link in day-to-day monument operations and visitor use and enjoyment.

STATEMENT FOR BIOLOGICAL ASSESSMENT

This Environmental Assessment (EA) also serves as a Biological Assessment (BA) for the federally listed threatened California red legged frog (*Rana aurora draytonii*). This EA and BA has been prepared in accordance with direction provided in the 1988 National Park Service (NPS) *Management Policies* (4:11), the 1973 Endangered Species Act (19 USC 1536.6), as amended, the 1969 National Environmental Policy Act (NEPA, USC 4332[2][c]), and 50 CFR 402.12. The objective of a BA is to determine whether an endangered or threatened species is likely to be adversely affected by the proposed action. The proposed action is described in detail in the "Alternatives" section of this document. The California red legged frog is known to inhabit the Chalone Creek and the project site. The potential effects of the proposal to the California red legged frog are analyzed in the "Environmental Consequences" section of this document.

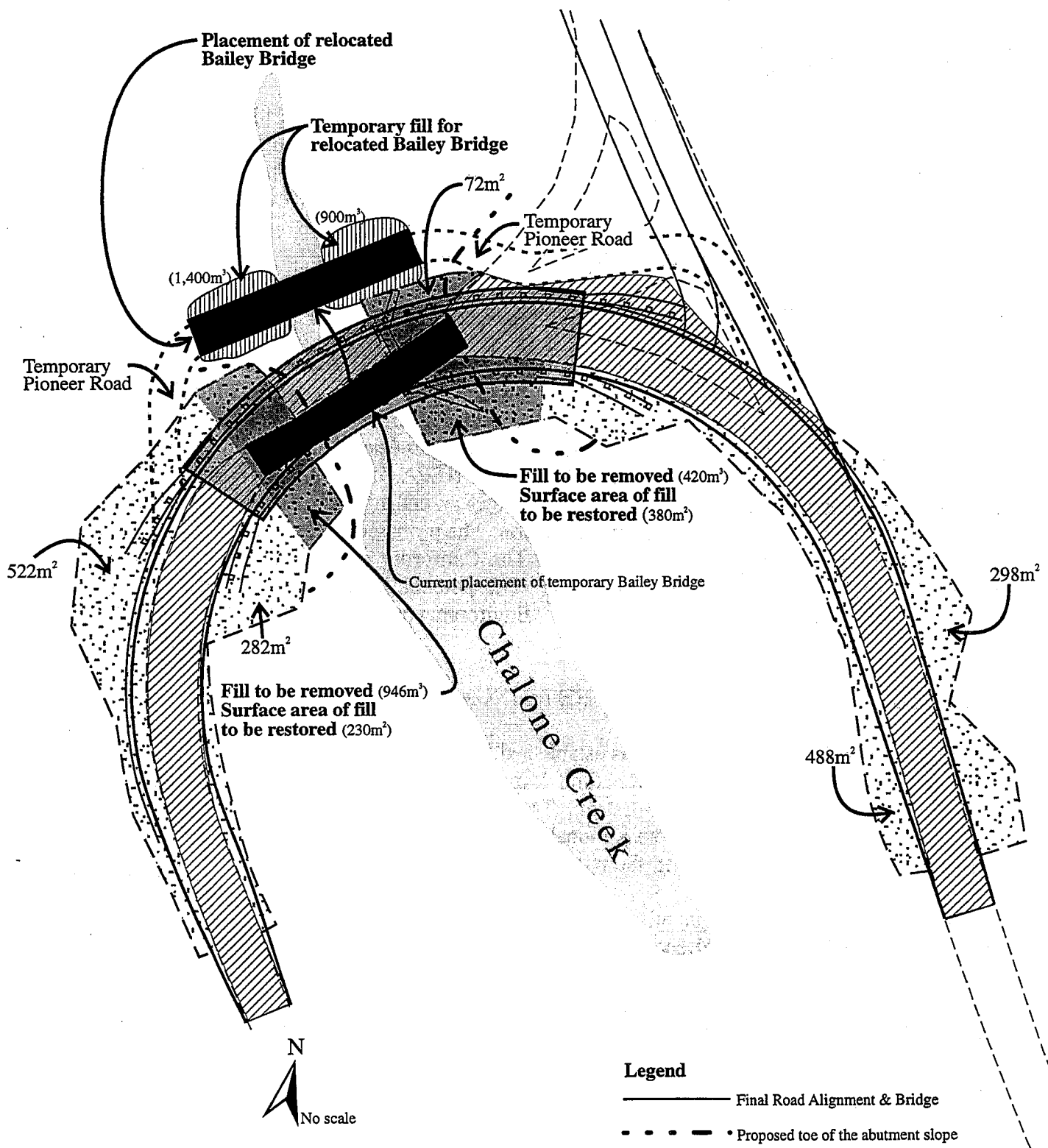
PURPOSE AND SIGNIFICANCE OF THE MONUMENT

Pinnacles National Monument (NM) was established by Proclamation 796 of January 16, 1908, to protect for its scientific interest, the natural formations known as the Pinnacles Rocks under Department of Agriculture's administration. Transferred to the Department of the Interior, December 12, 1910, it came under the National Park Service (NPS) when the Act of August 12, 1916, created the Service and added the purpose of providing for public use and enjoyment.

The monument preserves a unique mixture of volcanic pinnacle formations and the only example of a coastal broadleaf chaparral ecosystem found in the National Park Service. The Pinnacles are the remains of ancient volcanic activity. In an advanced stage of decomposition, they represent the effects of weathering, block faulting, and frequent earthquakes over the past 23 million years. The monument also contains numerous archeological, historical, and architectural resources.

BACKGROUND AND PREVIOUS PLANNING

On February 2, 1998, heavy rains in Pinnacles NM caused major erosion and tree fall causing the west abutment of the single span Chalone Creek bridge to scour and fail. The bridge deck immediately followed and fell to the streambed on the west side. A Categorical Exclusion (CE) to remove the failed bridge debris and install a temporary, single-lane Bailey bridge, was approved on March 3, 1998. Work to install the Bailey bridge was completed in late March.



Legend

- Final Road Alignment & Bridge
- - - Proposed toe of the abutment slope
- - - Previous road alignment
- Bailey Bridge
- Permanent replacement bridge
- Road realignment
- Maximum area of impact (would be revegetated during post construction phase)
- Restored area of California Red Legged Frog habitat

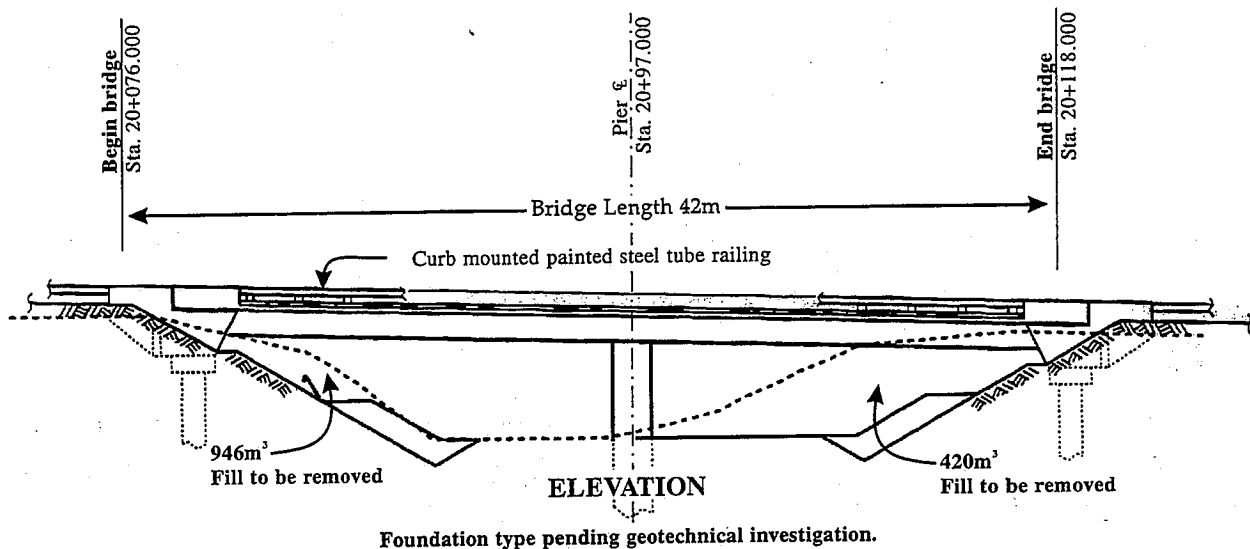
SITE PLAN

Pinnacles National Monument

United States Department of the Interior / National Park Service
 DSC/July '98/114/20,016

ISSUES AND IMPACT TOPICS

Issues: Issues and concerns affecting this proposal were identified from past NPS planning efforts, environmental groups, and input from other state and federal agencies. The major issues are the conformance of this proposal with the 1975 Pinnacles NM Master Plan and the 1993 Pinnacles NM East Unit Development Concept Plan; natural resource issues including threatened, endangered, and species of concern; floodplains and wetlands; seismicity; air quality; wilderness values (viewshed); prime and unique farmland; cultural resources (historic and archeological); socioeconomic values; environmental justice; and effects on visitor use and monument operations.



Preliminary TS&L Elevation Sketch
Chalone Creek / Pinnacles National Monument

Derivation of Impact Topics: Specific impact topics were developed for discussion focus, and to allow comparison of the environmental consequences of each alternative. These impact topics were identified based on federal laws, regulations, and Executive Orders; 1988 NPS *Management Policies*; and NPS knowledge of limited or easily impacted resources. A brief rationale for the selection of each impact topic is given below, as well as the rationale for dismissing specific topics from further consideration.

Impact Topics Included in this Document

Biotic Communities: The National Environmental Policy Act (NEPA) calls for an examination of the impacts on all components of affected ecosystems. NPS policy is to protect the natural abundance and diversity of all of the monument's naturally occurring communities. Since the Proposed Action would involve manipulation of natural resources, biotic communities will be addressed as an impact topic in this document.

Special Status Species (Threatened, Endangered, Species of Concern, and Rare Species): The 1973 Endangered Species Act, as amended, requires an examination of impacts to all federally listed threatened or endangered species.

In a letter dated April 20, 1998 (Appendix A), the USFWS lists fourteen special status species that may be within the project area. Research conducted by monument staff and further consultation with the USFWS has demonstrated that two species, the threatened California red legged frog and the California tiger salamander (*Ambystoma tigrinum californiense*) (candidate species), are likely to range within the project area and may be affected by actions resultant from the proposed alternative. Additionally, portions of the underside of the failed bridge were used as roosting habitat for the big brown bat (*Eptesicus fuscus*), western small-footed myotis bat (*Myotis ciliolabrum*), and little brown bat (*M. lucifugas*). These bat species are State of California species of special concern. Therefore, special status species will be addressed as an impact topic in this document.

Visitor Use and Monument Operations: The temporary single lane Bailey bridge now spanning Chalone Creek provides minimal and somewhat restricted access to the Bear Gulch area on the east side of the monument. The bridge is a critical link in visitor use and enjoyment of the monument and day-to-day monument operations. Failure to provide a modern, two lane unrestricted bridge to access visitor use and administrative services and facilities in the monument would inconvenience the visitor and affect monument operations. Also, potable water for the Bear Gulch area of the monument was provided by a buried water line that crossed Chalone Creek near the bridge. That portion of the water line that crossed the creek was also destroyed by the flood. Although the water line has been temporarily repaired a permanent replacement water line needs to be constructed in order to provide reliable water service to the Bear Gulch area. Therefore, visitor use and monument operations will be addressed as an impact topic in this document.

Impact Topics Dismissed from Further Analysis

Air Quality: The 1963 Clean Air Act, as amended, requires federal land managers to protect monument air quality, while the NPS *Management Policies* address the need to analyze air quality during park planning. Pinnacles NM is a Class I area. In Class I areas, even a minimal change in air quality is considered significant.

Should the proposed alternative be selected, local air quality would be temporarily affected by dust and construction vehicle emissions. Hauling material and operating equipment during the construction period would result in increased vehicle exhaust and emissions. Hydrocarbons, NO_x, and SO₂ emissions would be rapidly dissipated by air drainage since air stagnation is rare at the project site.

Fugitive dust plumes from construction equipment would intermittently increase airborne particulates in the area near the project site, but loading rates are not expected to be significant. Dust would also be expected to affect roadside vegetation. To mitigate dust effects, daily water sprinkling of the road and project site would reduce dust.

Overall, there would be a slight and temporary degradation of local air quality due to dust generated from construction activities and emissions from construction equipment. These effects would last only as long as construction activities occurred and the monument's Class I air quality would not be affected by the proposal. Therefore, air quality was dismissed as an impact topic in this document.

Cultural Resources: The *Statement for Management, Pinnacles National Monument*, 1980, indicates that there are no known ethnographic resources at the monument.

The *Final Master Plan, Pinnacles National Monument*, 1975, indicates that there are no known archeological resources within the proposed project area of the Chalone Creek bridge.

In March 1998 a categorical exclusion that provided National Environmental Policy Act (NEPA) documentation for the removal of the flood damaged Chalone Creek bridge was provided to the California State Historic Preservation Office. With no response or additional communication, the National Park Service assumes concurrence by the SHPO with the proposed action. The bridge was on the park's list of classified structures (LCS) and was considered potentially eligible for inclusion in the National Register of Historic Places. Flood damage was so significant that integrity was lost. There are no other known above ground cultural resources within the proposed project area.

All workers would be informed of the penalties for illegally collecting artifacts or intentionally damaging any archeological or historic property by construction crews. Workers would be trained to recognize artifacts common to the area. Workers would also be informed of the correct procedures in case previously unknown resources are uncovered during construction activities.

Prehistoric occupations appear to have been rare in this area making discovery of non-funerary objects such as any prehistoric objects (general archeological or paleontological resources) unlikely. The prehistoric site located within the monument however does represent seasonal or less usage of the area. This area probably was used as a travel corridor between the coastal areas and Central Valley. Should unknown resources be uncovered during construction, work would be stopped in the discovery area and the NPS would follow all regulations and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. Therefore, cultural resources was dismissed as an impact topic in this document.

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. No alternative would have health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's Draft Environmental Justice Guidance (July 1996). Therefore, Environmental Justice was dismissed as an impact topic in this document.

Floodplains and Wetlands: Executive Orders 11988 ("Floodplain Management") and 11990 (Protection of Wetlands") require an examination of impacts to floodplains and wetlands; of potential risk involved in placing facilities within floodplains, and protecting wetlands. The 1988 NPS *Management Guidelines*, DO2 (*Planning Guidelines*), NPS-12 (*National Environmental Policy Act Guidelines*), the 1975 *Pinnacles NM Master Plan*, and the 1976 *Natural Resources Management Plan*, *Pinnacles NM* provide guidelines on developments proposed in wetlands and floodplains.

Executive Order 11990, "Protection of Wetlands," requires federal agencies to avoid, where possible, impacts on wetlands. If required, a Statement Of Findings would address any concerns for wetlands and also any permitting actions required under section 401 of the Clean Water Act and any state requirements. There are no jurisdictional wetlands within the project area. Therefore, no Statement Of Findings for wetlands will be prepared.

Executive Order 11988, "Floodplain Management," requires all federal agencies to avoid construction within the 100-year floodplain unless no other practical alternative exists. Certain construction within a 100-year floodplain requires that a Statement Of Findings be prepared and accompany a Finding Of No Significant Impact. Although the project site is within the 100 year floodplain, compliance with Executive Order 11988 (*Floodplain Management*) is not required because bridges are excepted actions (NPS *Floodplain Management Guidelines*, 1993, V. B. 1. Excepted Actions.). Therefore, no Statement Of Findings for floodplains will be prepared.

Section 404: Section 404 of the Clean Water Act (33 USC 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 USC 401 et seq.) - The U.S. Army Corps of Engineers issues permits for work affecting wetlands and navigable waters of the United States.

The U.S. Army Corps of Engineers (COE, San Francisco, California, February 25, 1998, and May 27, 1998) has been consulted regarding this project. COE Nationwide Permit #3 (Maintenance [repair or replace in the same place]) and COE Nationwide Permit #14 (Road Crossings) are required.

Nationwide Permit #3 Maintenance: The repair or replacement of any previously authorized, currently serviceable structure or fill, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. The Chalone Creek bridge would be replaced in the same location and purpose of the original design.

Nationwide Permit #14 Road Crossings: Fills for roads crossing waters of the United States (including wetlands and other special aquatic sites) provided the activity meets all the following criteria:

- a. The width of the fill is limited to the minimum necessary for the actual crossing;

b. The fill placed in waters of the United States is limited to a filled area of no more than 1/3 acre. Furthermore, no more than a total of 200 linear feet of the fill for the roadway can occur in special aquatic sites, including wetlands;

c. The crossing is culverted, bridged or otherwise designed to prevent the restriction of, and to withstand, expected high flows and tidal flows, and to prevent the restriction of low flows and the movement of aquatic organisms;

d. The crossing, including all attendant features, both temporary and permanent, is part of a single and complete project for crossing of a water of the United States; and,

e. For fills in special aquatic sites, including wetlands, the permittee notifies the District Engineer in accordance with the "Notification" general condition. The notification must also include a delineation of affected special aquatic sites, including wetlands.

This NWP may not be combined with NWP 18 or NWP 26 for the purpose of increasing the footprint of the road crossing. Some road fills may be eligible for an exemption from the need for a Section 404 permit altogether (see 33 CFR 323.4). Also, where local circumstances indicate the need, District Engineers will define the term "expected high flows" for the purpose of establishing applicability of this NWP. (Sections 10 and 404)

The proposed bridge work meets these criteria.

Section 401: The project also requires compliance with General Condition 9 (water quality, Section 401 of the Clean Water Act) of the COE Nationwide Permit process. Clean Water Act section 401 certification or waiver of certification would be obtained through the California Central Coast Regional Water Quality Control Board, San Luis Obispo, California, prior to construction.

All 404 and 401 permits would be obtained by the FHWA prior to work on the replacement Chalone Creek bridge.

In-stream work would proceed in as short a time as possible to minimize stream bottom disturbance. Additionally, in-stream work would be done during low flow periods, after April 15, when stream flow would be expected to be less than 10 cubic feet/second. This would minimize the sediment load introduced into the creek. During summer months, the surface flow of Chalone Creek typically disappears entirely. In-stream construction would be scheduled for summer months to take advantage of minimal flow or no flow conditions in order to minimize water quality disturbance. However, water quality of Chalone Creek may be slightly and temporarily affected by increased sedimentation and turbidity during construction if it would be flowing during construction. Slight amounts of soil, gravel, and debris (dust, mortar, and similar small sized material) may periodically wash into the stream. These would be infrequent events of short duration and such pulses of material would quickly flush from the system and present no long term effects. Mitigation measures include Best Management Practices, possible netting

to prevent blocks of material from falling into the stream, falsework and other construction devices to catch any spilled material, erosion control during abutment removal, and revegetative actions during the post construction period. Because the streambed in the project area is primarily coarse sand and cobbles, sedimentation would be expected to be minimal.

On a case-by-case basis, all mechanized equipment brought into the monument for this project would be cleaned outside the monument, especially equipment used in association with work in the creek; this may include steam cleaning. Steam cleaning would remove any imported seeds and other non-native material as well as any petroleum products clinging to the equipment. As required by the U.S. Fish and Wildlife Service (see "Mitigation" section below), fueling of all machinery would be conducted only in the equipment staging areas and east side of the construction zone away from the creek (i.e. realigned bridge approach at Bear Gulch Road). Any spills of hazardous materials, fuel, etc., would be cleaned up immediately, and would not be washed into the creek. Materials used for cleaning fuel spills and other hazardous materials would be available on site. Some petrochemicals from construction equipment could seep into the soil. To minimize this possibility, equipment would be checked frequently to identify and repair any leaks.

Throughout all aspects of the project, Chalone Creek water quality would be maintained at or above minimum levels required by the State of California Water Quality Control Board. Therefore, water quality was dismissed as an impact topic in this document.

Prime and Unique Farmland: In August, 1980, the Council on Environmental Quality (CEQ) directed that federal agencies must assess the effects of their actions on farmland soils classified by the United States Department of Agriculture's Natural Resource Conservation Service as prime or unique. Prime or unique farmland is defined as soil which particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to the Natural Resource Conservation Service, there are no prime farmlands associated with the project area. Therefore, prime and unique farmland was dismissed as an impact topic in this document.

Seismicity: Pinnacles NM is near the boundary of the Pacific and North American tectonic plates. The San Andreas fault is within 9.6 km to the east; the maximum earthquake prediction for this portion of the San Andreas fault is 6.5 on the Richter scale. The Bear Valley fault is within 6.4 km to the east; the Pinnacles Fault is within 4.0 km to the west; the Chalone Creek fault runs roughly parallel to Chalone Creek (and the project site) about 45 to 60 m to the northeast. These faults are active and can produce seismic activity (earthquakes) at any time - the region is notorious for earthquakes.

The new bridge would be designed to current American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Highway Bridges, 1996, 16th edition standards, with current interims through 1997. The bridge would be designed to withstand a maximum credible earthquake (peak acceleration = 0.6 g). Therefore, seismicity was dismissed as an impact topic in this document.

Socioeconomic Values: Socioeconomic values consist of local and regional businesses and residents, the local and regional economy, and monument concessions. The local economy and most business of the communities surrounding the monument are based on agriculture, professional services, construction, tourist sales and services, and educational research; the regional economy is strongly influenced by tourist activity. The approved 1993 East Unit DCP discussed the monument's socioeconomic environment and impacts extensively.

Local and Regional Economy: Should the proposed action be implemented, short term economic benefits from construction related expenditures and employment would include economic gains for some local and regional businesses and individuals.

There would be short term benefits to the local and regional economy; local and regional businesses would not be appreciably affected in the long term. Therefore, socioeconomic values was dismissed as an impact topic in this document.

Wilderness Values (Viewshed): The NPS wilderness management policies are based on statutory provisions of the 1916 NPS Organic Act, the 1964 Wilderness Act, and legislation establishing individual units of the national park system. A unit of the National Wilderness Preservation System is a site designated by Congress and legally protected as wilderness in perpetuity. The 1988 NPS Management Policies require the administration of NPS managed wilderness areas for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness. Among other mandates are the protection of wilderness areas and the preservation of their wilderness character.

Legislation in 1978 created a 12,952 acre wilderness area within the monument. This area represents approximately 80 percent of the total area within the monument.

The Chalone Creek bridge project site is about 0.4 km from the nearest wilderness boundary. Although some construction work at the bridge site would be near the wilderness boundary, federally designated wilderness lands would be avoided during construction activities. Prior to construction, the construction zone would be surveyed and construction tape, snow fencing, or some similar border material would be installed along the boundary. The border material would delineate the construction zone and no construction work, movement, or other activity would be allowed beyond the border material into wilderness lands. Although there would be some noise generated by construction activities near the wilderness boundary, the noise would likely intrude only into the peripheral areas of wilderness near the project site and such noise would last only as long as construction takes place, about nine months.

To the greatest extent feasible, the replacement bridge would approximate the aesthetic qualities (surface treatment, etc.) of the failed bridge. Although the replacement bridge and realigned bridge approaches could be viewed from monument wilderness areas, they would present no appreciable adverse impacts to existing wilderness values or viewshed. Should the proposal be selected, there would be no adverse consequences to federally-designated wilderness lands or long term adverse consequences to monument wilderness values or solitude. Therefore, wilderness values was dismissed as an impact topic in this document.

ALTERNATIVES

Introduction

The alternatives section describes two management alternatives for this project. These alternatives were developed to resolve pertinent visitor use and management issues.

The no action alternative describes the action of not constructing a permanent bridge across Chalone Creek. The no action alternative provides a basis for comparing the management direction and environmental consequences of the proposed action. Should the no action alternative be selected, the NPS would respond to future needs and conditions associated with the temporary Bailey bridge now spanning Chalone Creek without major actions or changes in course.

The proposed action presents the NPS preferred alternative and defines the rationale for the action in terms of resource protection and management, visitor and operational use, costs, and other applicable factors. All actions described in the proposed action are consistent with the approved 1975 Master Plan, 1993 East Unit DCP, and related monument documents.

A summary table comparing the environmental consequences of each alternative is presented at the end of the alternatives section.

ALTERNATIVE A - NO ACTION

The temporary Bailey bridge crossing Chalone Creek would not be replaced with a permanent bridge.

ALTERNATIVE B - PROPOSED ACTION

The proposed action is to remove the original bridge abutment, fill material, and remaining foundations and construct a permanent bridge spanning the Chalone Creek at the site of the failed bridge. The replacement bridge would be a cast-in-place concrete box girder structure 42 m long, 9 m wide with two 3.6 m paved travel ways and 0.6 m paved shoulders. The bridge would have a center pier support column. Replacement bridge abutments would also be constructed but further back on the banks to help reconstruct the original stream channel. The bridge railings would be constructed to approximate the specifications of the original bridge.

A 10 cm phone duct, a 10 cm potable water line, and a 15 cm electric duct (for future use) would be included in the bridge design.

The top 10 cm of the box girder faces of the bridge would be textured to provide gripping surfaces (roosting habitat) for bats.

When the original single span Chalone Creek bridge was constructed, fill material was placed on the east and west banks to accommodate the single span structure. This fill material artificially constricted the natural channel and altered the course of the stream. Most of this fill would be removed under this alternative to help restore the natural stream cross section and alignment.

The road approaches to the new bridge would be slightly realigned to eliminate the 90 degree turn on the east approach. The bridge and approaches would be on a 44 m radius curve and the intersection that currently exists would be reconfigured to make the road to the maintenance area a side road; the main alignment would be Bear Gulch Road including the bridge.

The temporary Bailey bridge now in place at the site of the failed bridge would be relocated about 10 m (+/-) upstream. The Bailey bridge would be placed on the site of the temporary pioneer road which was developed in order to remove the failed bridge debris and abutments, and install the temporary Bailey bridge. Temporary fill would be required on both the east and west banks of the creek in order to support the relocated Bailey bridge; minor impacts to vegetation would result by relocating the Bailey bridge and installing the temporary fill. Once construction of the permanent bridge would be complete, the relocated Bailey bridge and temporary fill would be removed and the entire construction zone, including the site of the relocated Bailey bridge, would be recontoured as close as possible to natural conditions and revegetated with species native to the project area.

Staging Areas: The staging areas for equipment and material storage would be near the project site on "No Name Dike" which is a paved area that is closed to visitor use and on the intersection of Chalone Creek and Bear Gulch roads. Staging areas would be fenced and clearly delineated.

Mitigation Measures of the Proposed Action: Mitigation measures are analyzed as part of the proposed action. These actions have been developed to lessen the adverse effects of the proposed action.

Construction zones would be identified and fenced on all sides with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All areas enclosed by fencing would be checked for individual California red legged frogs before soil would be moved or fill added. If any frogs are discovered, they would be relocated to areas outside the construction zone.

If any equipment would be too large to cross the temporary Bailey bridge, such construction equipment would access the construction site by travelling over the previously impacted areas near the bridge abutments. No new pioneer roads would be developed for permanent replacement bridge construction.

All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.

Temporary impacts associated with bridge construction would occur, such as soil and vegetation disturbance and the possibility of soil erosion. In an effort to avoid introduction of exotic plant species, no hay bales would be used. Hay often contains seed of undesirable or harmful alien plant species. Therefore, on a case-by-case basis the following materials may be used for any erosion control dams that may be necessary: rice straw, straws determined by NPS to be weed-free (e.g., Coors barley straw or Arizona winter wheat straw), cereal grain straw that has been fumigated to kill weed seed, and wood excelsior bales. Standard erosion control measures such as silt fences and/or sand bags would also be used to minimize any potential soil erosion.

Silt fencing fabric would be inspected weekly or after every major storm. Accumulated sediments would be removed when the fabric is estimated to be approximately 75% full. Silt removal would be accomplished in such a way as to avoid introduction into any wetlands or flowing water bodies.

Although soil stockpiled during construction would be susceptible to some erosion, such erosion would be minimized by placing silt fencing around the excavated soil. Excavated soil may be used in the construction project; excess soil would be stored in approved areas.

Revegetation plantings would use native species from genetic stocks originating in the monument if feasible. Revegetation efforts would be to reconstruct the natural spacing, abundance, and diversity of native plant species. All disturbed areas would be restored as nearly as possible to preconstruction conditions shortly after construction activities are completed. The principal goal is to avoid interfering with natural processes.

In many areas soils and vegetation are already impacted to a degree by various human and natural activities. Construction would take advantage of these previously disturbed areas wherever possible. Soils within the project construction limits would be compacted and trampled by the presence of construction equipment and workers. Soils would be susceptible to erosion until revegetation takes place. Vegetation impacts and potential compaction and erosion of bare soils would be minimized by conserving topsoil. The use of conserved topsoil would help preserve microorganisms and seeds of native plants. The topsoil would be respread in as near as original location as possible, and supplemented with scarification, mulching, seeding, and/or planting with species native to the immediate area. This would reduce construction scars and erosion.

Any blasting would conform with the 1991 NPS-65 (*Explosives Use and Blasting Program*) specifications. All blasting would use the minimum amount necessary to accomplish the task. All blasting would be used to shatter, not distribute, any material.

Construction workers and supervisors would be informed about the special sensitivity of monument values, regulations, and appropriate housekeeping. Workers would also be educated on the presence of California red legged frogs and measures to be taken to minimize impacts.

Special Status Species

USFWS: This bridge replacement project is a National Park Service emergency action. The Chalone Creek bridge provides the sole vehicle access link to monument headquarters and other essential administrative functions, the visitor center, staff housing, visitor use services and facilities, and emergency access (such as but not limited to fire and medical). After the original bridge failed, the east side of the monument was accessible on foot only by two foot bridges across Chalone Creek and a foot trail approximately 0.8 km long. Therefore, for all practical purposes, a majority of the monument was essentially closed because of the failed bridge.

Consultation took place with Amelia Orton-Palmer, Fish and Wildlife Biologist, USFWS, Ventura, CA, between February 23 and March 2, 1998 (including an on-site inspection with NPS and Central Federal Lands Highway Division [CFLHD] staff on March 2). The USFWS has agreed with the NPS and COE assessment that this is an emergency project. Additionally, in consultation with Ms. Orton-Palmer (May 7, 1998), it was determined that mitigation, including habitat restoration, for the California red legged frog would also apply for the California tiger salamander; no additional mitigation measures are required for the California tiger salamander.

Ms. Orton-Palmer provided minimization measures to ensure minimal impacts to the California red legged frog and its habitat during the bridge removal and Bailey bridge construction. The minimization measures were followed and would also apply to the construction of the permanent replacement bridge should the proposed alternative be selected. Formal Section 7 consultation with the USFWS is being conducted (see appendix B - Letter Requesting Formal Section 7 Consultation) and would be concluded prior any earth disturbing activities associated with this proposal. The USFWS minimization measures are:

1. Fencing shall be erected to protect riparian vegetation on creek banks.
2. Workers shall be educated on presence of California red legged frogs and habitat and measures to be taken to minimize impacts.
3. Work activity shall be restricted to outside the creek bed as much as possible.
4. Flow of creek shall not be blocked.
5. Fueling of all machinery shall be conducted only in the equipment staging areas on the road.

6. Any spills of hazardous materials, fuel, etc., shall be cleaned up as soon as possible, and shall not be washed into the creek.
7. A qualified biological monitor shall be present during all construction activities and shall have the authority to temporarily halt activities if greater impacts may occur than anticipated.
8. All food-related trash items shall be kept in covered containers and removed from the work site daily.
9. Mitigation measures shall be implemented after construction of temporary bridge and permanent bridges is complete and may entail restoration of riparian vegetation, rocks, and wood debris, as well as excavation of gravel under bridge area. These measures shall be conducted under the guidance of the NPS biologist staff.

The project site is essential habitat for the threatened California red legged frog; project activities have the potential to impact habitat. To minimize such impacts, avoidance, to include implementation of the above stated minimization measures provided by the USFWS for installation of the Bailey bridge, would be implemented during the construction and post construction phases of the permanent replacement bridge to help assure habitat availability for the California red legged frog in perpetuity:

The top 10 cm of the box girder faces of the bridge would be textured to provide gripping surfaces (roosting habitat) for bats. The objective is not to provide new roosting habitat but replace roosting habitat that was lost when the bridge failed.

General Construction Schedule and Costs: Construction for this project is expected to last approximately nine months, roughly from early March 1999 through November 1999; however, construction could be delayed by weather conditions or other unexpected events. The cost of this project is expected to be approximately \$1 million (gross 1999 dollars).

ALTERNATIVES CONSIDERED AND DISMISSED

During the planning process of this project, an alternative was considered to remove and not relocate the temporary Bailey bridge during construction of the permanent replacement Chalone Creek bridge. This would have resulted in closing the road to vehicular traffic west of Chalone Creek. This alternative was dismissed because of unacceptable environmental, administrative, and visitor use impacts, and funding constraints.

If the Bailey bridge were not relocated much of the bridge construction would have to take place from the east side of the project site. This would require the contractor to use more equipment and heavier equipment than originally considered. Additionally, any work that could not be accomplished from the east side would require the contractor to drive equipment and haul material through the creek to the west side, causing additional environmental impacts.

When the Chalone Creek bridge failed a temporary Bailey bridge was installed at the site of the failed bridge. The temporary Bailey bridge now provides the sole access to the monument's east side administrative area, some staff housing, principal visitor use areas, emergency access, and administrative/maintenance access to repair other monument areas damaged in the flood. Additionally, heavy spring and summer rains have the potential to cause further damage to monument resources. The temporary Bailey bridge provides administrative access to these areas; access is necessary to identify damaged areas and conduct preventive maintenance actions and permanent repairs.

Therefore, the alternative to not relocate the temporary Bailey bridge during construction of the permanent Chalone Creek bridge was dismissed.

The proposed alternative would relocate the temporary Bailey bridge about 10 m (+/-) upstream of its present location. The relocated Bailey bridge would be placed on the stream banks that were impacted by construction of the pioneer road developed to remove the original failed Chalone Creek bridge and to install the temporary Bailey bridge.

Also, by not relocating the temporary Bailey bridge during permanent bridge construction, all visitor and administrative vehicular access (including fire and emergency) to the east side of the monument would have been cut off during the anticipated nine month construction period. This would adversely impact administrative and visitor use. Project construction cost estimates were developed with the assumption that the Bailey bridge would be relocated during construction and the contractor would use the bridge to access the west side of the construction site. If the Bailey bridge is not relocated and no temporary bridge access is provided to the west side of the project site, costs would escalate beyond present estimates.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact Topic	Alternative A No Action	Alternative B Proposed Action
Biotic Communities	Areas impacted by the installation of the Bailey bridge would be returned to preinstallation conditions. Reburying the potable water line would require retrenching the Chalone Creek bottom to a depth of 8 to 10 feet.	There would be short term impacts to natural resources but the level of impacts would result in no long term effects to any natural resources, individual species of animals or plants or, any biotic communities as a whole. An artificial constriction of Chalone Creek would be mostly eliminated when approximately 1,366 m³ of old fill would be removed (about 610 m² of habitat). This fill impacted the creek banks when the Chalone Creek bridge was originally constructed in the 1930s.
Special Status Species	No new impacts.	The proposed action would result in short term affects to California red legged frog and California tiger salamander habitat but, with the combination of habitat avoidance, minimum habitat impact, habitat restoration during the post construction period, and a 610 m² increase of habitat over existing conditions, it is not likely the California red legged frog or the California tiger salamander or their continued existence would be adversely affected by this project. Thus, over the long term, the species' would benefit from the proposal. Replacement bat roosting habitat would also be provided.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

continued

Impact Topic	Alternative A No Action	Alternative B Proposed Action
Visitor Use and Monument Operations	Visitor use and administrative access into the east side of the monument would continue to be restricted. Maintaining the temporary Bailey bridge as a permanent fixture would become excessively expensive as it is designed and constructed to be a temporary fixture. The Bailey bridge is vulnerable to weathering, metal fatigue, stress, and decay and is therefore unacceptable as a permanent replacement for the failed Chalone Creek bridge. The lack of a reliable supply of potable water to the Bear Gulch area would continue to be a problem.	Over the short term, the visitor experience would be adversely affected by noise, dust, fumes, possible delays, visual intrusion, and construction vehicle traffic for the duration of construction activities. The long term effect on the visitor experience would be positive. Due to a permanent replacement bridge and dependable potable water source, monument operations would be much improved over existing conditions.

AFFECTED ENVIRONMENT

Detailed information on resources in Pinnacles NM may be found in the 1975 *Master Plan* and 1976 *Natural Resources Management Plan*. A summary of the resources associated with this project follows.

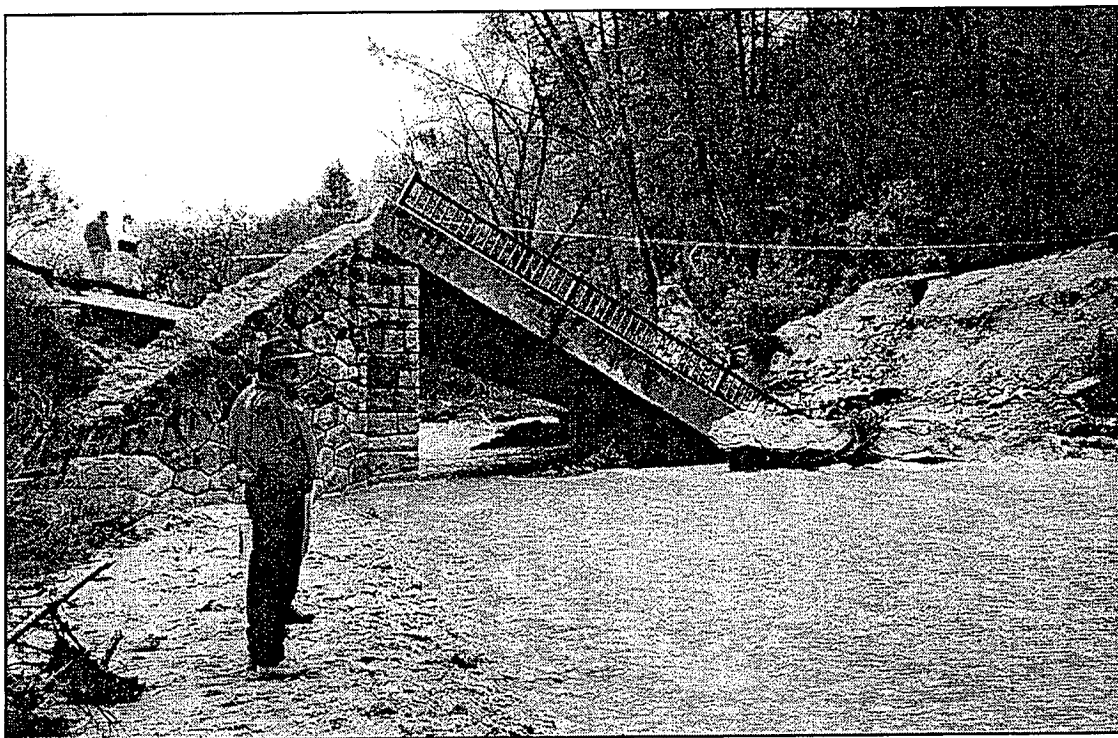
Location and Access: Pinnacles NM is located in the Central California, 64 km inland from the Pacific Ocean. The monument is adjacent to U.S. Route 101. Hollister is 51 km to the north and King City is 48 km south of the monument.

Visitation: Pinnacles is a day use recreation area with world-class rock climbing, picnicking, and hiking. Approximately 172,000 people visited the monument in 1997.

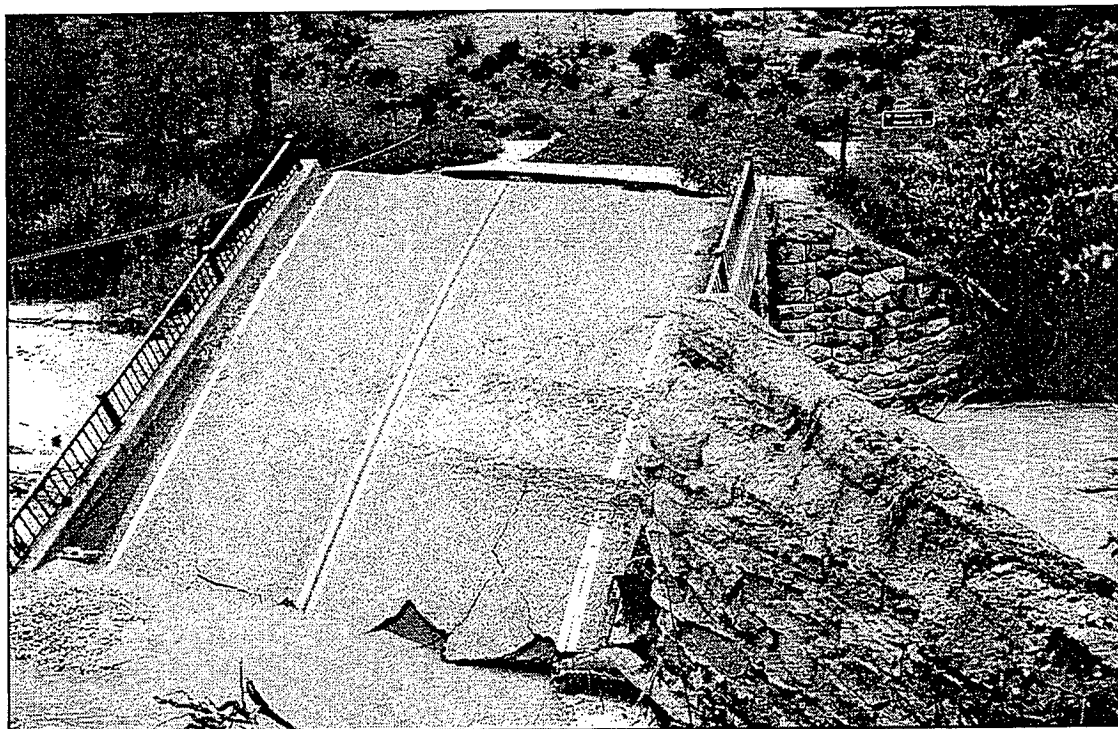
Chalone Creek Bridge Site: The Chalone Creek bridge site is located on Chalone Creek about 1 km northeast of the east entrance station of Pinnacles NM on Highway 146. The bridge, which is a part of Bear Gulch Road, crosses the creek from east to west and traverses south along a steep hillside ascending to the monument's visitor center in Bear Gulch. Bear Creek flows from Bear Gulch Reservoir through the visitor center parking areas to its confluence with Chalone Creek. This confluence is approximately 500 m downstream from the bridge site. Chalone Creek is ungaged, however, monument staff estimates it to have a drainage area of about 46.6 km² above the bridge.

In early February 1998, Chalone Creek received intense, short duration (6-7 hours) runoff from the steep canyons to the crest of the Gabilan Range. During this event large volumes of sediment were transported by the peak shear stresses produced by the confined flood flows. Sources of this sediment were eroded banks, slides, or gravel bars stored along the corridor. The west abutment failed due to high water and vegetative debris combined with the constrictive nature of the old bridge's span. Partially due to this constricted creek bank, the volume, force, debris, and high water level eroded behind the bridge abutments causing the west abutment to fail. The west end of the bridge failure (photos 1 and 2) occurred within the intense 6-7 hour storm duration.

When the bridge was originally constructed in the mid 1930s, about 2,354 m³ of fill was imported and deposited on the east bank; about 946 m³ of fill was also placed on the west bank. This fill was used as bridge approach road embankments and shortened the span required to bridge the creek. These approach road embankments encroach into the channel and artificially constrict creek flows by 200 percent, which contributes towards flow backing up and ponding upstream from the bridge. This may have contributed to bridge abutment failure. Additionally, the fill limits breeding, foraging, and sheltering habitat of the threatened California red legged frog.



Photograph 1: Chalone Creek bridge looking south



Photograph 2: Chalone Creek bridge looking east

The destroyed bridge spanned 11.28 m with vertical stone masonry abutment and wing walls. The west or right cantilever footings and gravity abutment walls were undermined by scouring of the coarse creek bed during an estimated 50 year flood event. Flood depths at the bridge were estimated at 1.5 m; this depth may have been raised by backwater from the blockage created by the collapsed bridge. The west abutment collapsed into the creek causing the remaining deck and east abutment to collapse into the channel. The failed bridge supported a telephone cable which was also destroyed when the bridge failed; a buried water line upstream from the bridge was also destroyed.

Work to install the temporary Bailey bridge consisted of demolishing and removing the failed bridge from the stream bed, reusing salvageable materials, disposing of debris, preparing the site with support pads for a temporary Bailey bridge, and installing traffic control.

At the project site, a temporary pioneer roadway about 3 meters wide by about 14 m long (42 m²) was constructed. This pioneer road goes down one bank, across the creek, and up the other bank. However, only about half this area, or about 21 m² is on land (the creek banks). An appreciable portion of the creek banks where the pioneer road was developed, especially the east bank, was scoured and eroded by the rains and floods of February 1998.

Development of the pioneer road was required to provide equipment access into the failed bridge area, dismantle the failed bridge and abutments, wingwalls, and foundations, and remove the debris from the site. The intent is to obliterate the pioneer roadway and revegetate the site with native species after construction of the permanent bridge.

Monument Operations: The Chalone Creek bridge provides the sole vehicle access to monument headquarters, visitor center, staff housing, visitor use services and facilities, emergency access (such as but not limited to fire and medical), and other essential functions in the Bear Gulch area. The administrative area is currently accessible via the temporary Bailey bridge, by two foot bridges across Chalone Creek, and a foot trail approximately 804 m long. The water line to the Bear Gulch area was destroyed in the flood. Although the line has been temporarily repaired, a permanent replacement water line needs to be constructed.

NATURAL RESOURCES

Vegetation and Wildlife: Vegetation of the project site consists primarily of elderberry, alder, poison oak, willows, oak, pine, large sycamore trees, and chaparral species. A variety of birds and animals occupy the monument and can be expected at the project area. Species include the turkey vulture, wren-tit, black-tailed deer, bobcat, gray fox, coyote, raccoon, bats, badger, and a variety of rodents. The occasional mountain lion is also sometimes seen at or near the project area.

Chalone Creek Geomorphology: In late February 1998, a fluvial geomorphic assessment was completed by FHWA to assess the stream's stability at the bridge crossing. The channel reach can be classified as an altered meandering stream with a predominately sand and silt bottom. It

contains some gravel to cobble sized material resulting in an unstable confined type stream due to the moderate confinement by the access road which encroaches on the creek floodplain all along the east side. The project reach is further confined by the steep high banks along the west side. The bed material appears to be armored with well graded mix of cobble, gravel, and coarse to fine sand. There are occasional boulders scattered along the corridor bed. The recent flood transported boulders sized between 0.46 - 0.6 m. Alluvial silt, sand, cobble, gravel, and basalt or serpentine rock outcrops compose the bank material.

Special Status Species

California Red Legged Frog: The US Fish and Wildlife Service (USFWS) listed the California red legged frog (*Rana aurora draytoni*) Baird and Girard (RANIDAE) as threatened on June 24, 1996 (*Federal Register*, Thursday, May 23, 1996). This animal is fully protected under the 1973 Endangered Species Act, as amended. In an April 20, 1998, letter to the NPS the USFWS stated that the California red legged frog is known to occur in the project area.

The California red legged frog is found primarily in wetlands and streams in coastal drainages of central California. At Chalone Creek, California red legged frogs have been recorded either by sight or calls about 365 m upstream and 365 m downstream of the project site. This area is also known to be prime breeding habitat for the species. For the most part, the frogs are found exclusively on the creek side of Bear Gulch Road, there are no records of frogs on the chaparral side of the road and there are no reports of road killed frogs.

The California red legged frog has been extirpated from about 70 percent of its former range. The California red legged frog is threatened within its remaining range by a wide variety of human impacts, including urban encroachment, construction of reservoirs and water diversions, introduction of exotic predators and competitors, livestock grazing, and habitat fragmentation.

The historical range of the California red legged frog extended coastally from the vicinity of Point Reyes National Seashore, Marin County, California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico.

California red legged frogs breed from November through March with earlier breeding records occurring in southern localities. California red legged frogs found in coastal drainages are rarely inactive, whereas those found in interior sites may hibernate.

The California red legged frog occupies a fairly distinct habitat, combining both specific aquatic and riparian components. The adults require dense, shrubby or emergent riparian vegetation closely associated with deep (>0.7 m) still or slow moving water. The largest densities of California red legged frogs are associated with deep-water pools with dense stands of overhanging willows (*Salix* spp.) and an intermixed fringe of cattails (*Typha latifolia*). Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. California red legged frogs estivate in small mammal burrows and moist leaf litter. California red legged frogs have been found up to 30 m from water in adjacent dense

riparian vegetation for up to 77 days; use of the adjacent riparian corridor is most often associated with drying of coastal creeks in mid to late summer.

California red legged frogs disperse upstream and downstream of their breeding habitat to forage and seek estivation habitat. Estivation habitat is essential for the survival of California red legged frogs within a watershed. Estivation habitat, and the ability to reach estivation habitat can be limiting factors in California red legged frog population numbers and survival.

Estivation habitat for the California red legged frog is potentially all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture during the dry season within about 100 m of a riparian area. This could include boulders or rocks and organic debris such as downed trees or logs. Incised stream channels with portions narrower than 46 cm and depths greater than 46 cm may also provide estivation habitat.

Egg masses that contain about 2,000 to 5,000 moderate-sized (2.0 to 2.8 mm in diameter), dark reddish brown eggs are typically attached to vertical emergent vegetation, such as bulrushes (*Scirpus* spp.) or cattails (*Typha* spp.). California red legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring; eggs hatch in 6 to 14 days and larvae undergo metamorphosis 3.5 to 7 months after hatching. Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis. Sexual maturity normally is reached at 3 to 4 years of age, and California red legged frogs may live 8 to 10 years.

The diet of California red legged frogs is highly variable; larvae probably eat algae. While invertebrates seem to be the most common food items of adult frogs, vertebrates, such as Pacific tree frogs (*Hyla regilla*) and California mice (*Peromyscus californicus*), represented over half of the prey mass eaten by larger frogs. Juvenile frogs are active diurnally and nocturnally, whereas adult frogs seem to be largely nocturnal. Feeding activity likely occurs along the shoreline and on the surface of the water.

The Chalone Creek bridge site is used by the California red legged frog for breeding, foraging, and shelter. Residing in the monument's resource collection are preserved specimens of California red legged frogs collected at the Chalone Creek bridge site dating back to the mid 1960s.

In July and August in 1992, 1993, and 1994, nondestructive surveys of the California red legged frog population at the Chalone Creek bridge site were conducted. In 1992, seven adults, 15 juveniles, and over 400 larvae were observed; in 1993, 15 adults, 22 juveniles, and over 400 larvae were observed; in 1994, 22 adults, 34 juveniles, and over 400 larvae were observed (all numbers are approximate). The increased number of individuals observed from 1992 through 1994 are attributed to more accurate survey techniques and not necessarily an increase in the California red legged frog population at the bridge site. These surveys were specific to the Chalone Creek bridge site and do not represent nor are reflective of the total California red legged frog population inhabiting the entire monument.

California Tiger Salamander: California tiger salamander (*Ambystoma tigrinum californiense*) (AMBYSTOMIDAE) was listed as a candidate species by the USFWS on February 28, 1996 (61 FR 7596). This species is found in open woodlands and grasslands of California west of Sierra Nevada crest, from Sonoma County to Santa Barbara County and east to the Sierra foothills. It frequents quiet water pools, ponds, reservoirs, lakes, temporary rain pools, and streams. Adults are typically found under objects near water or crawling at night to and from breeding sites. Migrations generally start around mid-November during and after rains. Adults spend much time underground in the burrows of other animals. Breeding occurs from around mid-December through February.

Bats: Understructure of the failed bridge was used as roosting habitat for the big brown bat (*Eptesicus fuscus*), western small-footed myotis (*Myotis ciliolabrum*), and little brown bat (*M. lucifugas*). These bat species are California species of special concern.

ENVIRONMENTAL CONSEQUENCES

Introduction

This section describes the environmental consequences associated with the no action and proposed action alternatives. It is organized by Impact Topics, which distill the issues and concerns into distinct topics for discussion analysis. These topics focus on the presentation of environmental consequences, and allow a standardized comparison between alternatives based on the most relevant topics.

Cumulative Effects

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act, require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." (40 CFR 1508.7). Cumulative impacts are considered for all alternatives and are presented at the end of each Impact Topic.

ALTERNATIVE A - NO ACTION

Biotic Communities: The 23 m² of the pioneer roads created to remove the failed Chalone Creek bridge and install the temporary Bailey bridge would be obliterated, returned to natural contours, and revegetated with native species. This would restore biotic communities impacted by creation of the pioneer road. The 3,291 m³ of old fill on the east and west banks of the creek would remain.

The temporarily repaired potable water line serving the Bear Gulch area would require a permanent repair. Since the line must cross Chalone Creek, it would most likely be reburied in its original location. This would require retrenching the creek bottom to a depth of 8 to 10 feet. The line section crossing the creek would be encased in concrete to protect it from future floods.

Cumulative Impacts: No cumulative impacts.

Conclusion: Areas impacted by the installation of the Bailey bridge would be returned to preinstallation conditions. Reburying the potable water line would require retrenching the Chalone Creek bottom to a depth of 8 to 10 feet.

Special Status Species: There would be no new impacts on any special status species under this alternative. The 23 m² of the pioneer roads created to remove the failed Chalone Creek bridge and install the temporary Bailey bridge would be obliterated, returned to natural contours, and revegetated with native species. This would restore California tiger salamander and California red legged frog habitat impacted for emergency bridge removal and installation of the temporary

Bailey bridge. No replacement roosting habitat would be provided for the big brown bat, western small-footed myotis bat, or the little brown bat.

Cumulative Impacts: No cumulative impacts.

Conclusion: No new impacts.

Visitor Use and Monument Operations: Visitor use and administrative access into the east side of the monument would continue to be restricted and congested by the number of vehicles entering and exiting via the single lane Bailey bridge. Delays presently experienced by visitors using the temporary Chalone Creek bridge would be expected to increase in duration and frequency over time as visitation increases. Some visitors would be frustrated because of these delays. Monument staff would also be caught in these traffic delays, hindering timely and efficient monument operations and emergency responses.

The Bailey bridge has a weight restriction of 10 tons. Large vehicles, such as tour buses and school buses, exceed this weight. Occasionally, groups of visitors, including school groups, travel by bus to the Bear Gulch area. Since the buses exceed the 10 ton weight limit of the Bailey bridge they would not be allowed to cross the bridge. The bus passengers would be required to off load on the east side of the bridge and walk a mile or more to the Bear Gulch visitor use area, including the visitor center.

Although the existing temporary Bailey bridge could be maintained indefinitely, it would be exceptionally cost ineffective. The bridge is currently being rented from Stanislaus National Forest. If this no action alternative is selected the temporary Bailey bridge would need to be purchased or replaced, or rented indefinitely. Maintaining the temporary Bailey bridge as a permanent fixture would become excessively expensive because it is designed and constructed to be a temporary fixture. The Bailey bridge is vulnerable to weathering, metal fatigue, stress, and decay and is therefore unacceptable as a permanent replacement for the failed Chalone Creek bridge. Additionally, monument staff time and operational funds would be taken from other monument operations to continue maintenance on the bridge and maintain it in a safe and functional condition. These other monument operations would decline from lack of adequate resources to function properly.

The potable water supply to the Bear Gulch area would continue to be provided by a temporary line. The line would require periodic maintenance and be susceptible to failure. Failure of the line would disrupt monument operations and visitor use of the Bear Gulch area.

Cumulative Impacts: Delays presently experienced by visitors using the temporary Chalone Creek bridge would be expected to increase in duration and frequency over time as visitation increases. Monument operations would decline due to inadequate access and lack of a reliable supply of potable water to the Bear Gulch area.

Conclusion: Visitor use and administrative access into the east side of the monument would continue to be restricted. Maintaining the temporary Bailey bridge as a permanent fixture would become excessively expensive as it is designed and constructed to be a temporary fixture. The Bailey bridge is vulnerable to weathering, metal fatigue, stress, and decay and is therefore unacceptable as a permanent replacement for the failed Chalone Creek bridge. The lack of a reliable supply of potable water to the Bear Gulch area would continue to be a problem.

ALTERNATIVE B - PROPOSED ACTION

Biotic Communities (see also Site Plan): If the proposed action is implemented there would be short term impacts to natural resources but the level of impacts would result in no long term effects to any natural resources, individual species of animals or plants or, any biotic communities as a whole. An artificial constriction of Chalone Creek would be mostly eliminated when approximately 1,366 m³ of old fill would be removed (about 610 m² of habitat). This fill impacted the creek banks when the Chalone Creek bridge was originally constructed in the 1930s.

Relocating the temporary Bailey bridge about 10 m north of the permanent bridge construction site to the site of the pioneer road would require the placement of about 2,300 m³ of temporary fill on the creek banks. This fill would be necessary to support the ends of the Bailey bridge. However, virtually all this fill would be placed on the presently impacted area of the pioneer road that was created to remove the failed bridge and install the temporary Bailey bridge when the former bridge failed. Care would be exercised during placement of the fill to ensure no fill material would be introduced into Chalone Creek itself. The limits of the fill would not extend beyond the area already impacted by the pioneer road; erosion control measures would be used on the exposed sides of the fill to ensure no fill material would be eroded into the creek. Once the permanent bridge would be constructed, the Bailey bridge and temporary fill supporting it would be removed and the affected area recontoured and revegetated.

Constructing the permanent replacement bridge and realigning the bridge approaches would affect approximately 1,590 m² of biotic communities although this area could change slightly during the final design phase. This area includes the approximate 23 m² that was impacted by constructing the pioneer roads down and up the creek banks during the emergency action to remove the failed bridge and install the temporary Bailey bridge in March 1998.

Most of the impacted area is along the road shoulders and would be the result of realigning the bridge approaches. Vegetation affected on the creek side of Bear Gulch Road include poison oak, willows, oak, some mature pine and sycamore trees. On the Chaparral side of Bear Gulch Road, chaparral species as well as a few mature pines would be affected.

Excavation to construct the bridge's supporting center pier would take place at the previously disturbed site of the east abutment foundation of the failed bridge. Construction of the pier would take place during low creek flow or when the surface flow has diminished entirely. Impacts to flowing creek values would be minimal. The placement of the center supporting pier would be out of the main creek flow except during the infrequent and brief times of high flow; the pier would also be designed to minimize the possibility of catching debris which would act as a barrier or dam causing flow to back up and pond upstream.

During the post construction period, almost all of the 1,590 m² area affected by the proposal, including the approximate 23 m² that was affected by constructing the pioneer road during March 1998, would be contoured to match natural contours as close as possible and revegetated with

species native to the area. Portions of the realigned bridge approaches that would no longer be used as roadway would also be recontoured and revegetated after the existing road material would be removed.

Approximately 1,366 m³ of the fill that was placed on the creek banks when the Chalone Creek bridge was originally constructed in the 1930s would be removed resulting in about 610 m² of restored surface area and habitat. Removing this fill would appreciably reduce the artificial constriction of the creek at this point and help restore the natural flow; thus, it would help to reduce the potential of future flood damage caused by flood flows backing up at this point.

The areas under the new bridge ends where the 1,366 m³ of old fill would be removed would be contoured and armored with class 6 riprap to protect the slopes from potential erosion. Topsoil would be placed on the riprap which would then be vegetated with species suitable to the creek side habitat. This restored habitat would amount to about 610 m², which is included in the 1,590 m² area affected by the proposal. Thus, about 610 m² of habitat that was impacted when the Chalone Creek was originally constructed in the 1930s would be restored.

Loss of wildlife would be proportional to the amount of habitat lost. The bridge and approach road corridor have been previously affected through years of close association with vehicles and attendant human activity. Reconstructing the bridge and realigning the bridge approaches would have no permanent adverse effect on wildlife or habitat. Larger wildlife would probably avoid the construction zone to a certain extent during construction. During construction some small animals may be killed or forced to relocate to areas outside the construction zone. Overall populations of affected species might be slightly and temporarily lowered. Other impacts on wildlife would be the temporary alteration of habitat in some areas, especially in areas of bridge approach realignment. However, with the mitigation measures, recontouring, and revegetation during the post construction phase, permanent negative effects on wildlife would not be anticipated.

Cumulative Impacts: Monument operations would be continuously disrupted conducting ongoing and emergency repairs and managing traffic. The potable water supply to the Bear Gulch area could fail at any time.

Conclusion: There would be short term impacts to natural resources but the level of impacts would result in no long term effects to any natural resources, individual species of animals or plants or, any biotic communities as a whole. An artificial constriction of Chalone Creek would be mostly eliminated when approximately 1,366 m³ of old fill would be removed (about 610 m² of habitat). This fill impacted the creek banks when the Chalone Creek bridge was originally constructed in the 1930s.

Special Status Species: The proposed action would result in short term affects to California red legged frog and California tiger salamander habitat but, with the combination of habitat avoidance, minimum habitat impact, habitat restoration during the post construction period, and a 610 m² surface area increase of habitat over existing conditions, it is not likely the California

red legged frog or the California tiger salamander or their continued existence would be adversely affected by this project. Thus, over the long term, the species would benefit from the proposal.

The California red legged frog is found almost exclusively on the creek side of Bear Gulch Road. Therefore, impacts to the frog and its habitat would be confined to this area.

Approximately 23 m² (less than 20 linear m up and down the creek bank) of California red legged frog and California tiger salamander creekside habitat was disturbed by emergency installation of the temporary Bailey bridge in March 1998. Approximately 793 m² of creek side habitat would be temporarily disturbed to relocate the temporary Bailey bridge about 10 m upstream and construct the permanent replacement Chalone Creek bridge on the site of the failed bridge. However, of this area, 23 m² would be on the area disturbed by development of the pioneer road during emergency installation of the Bailey bridge when the Chalone Creek bridge originally failed. Much of this 793 m² disturbance would also be within the 20 linear meters of creekside habitat disturbed by emergency operations to install the temporary Bailey bridge. Therefore, the proposal to construct the permanent Chalone Creek bridge would temporarily disturb approximately 770 m² of California red legged frog habitat.

The 1,366 m² fill removal and habitat restoration under the ends of the new bridge would restore that amount of California red legged frog habitat which was lost through creekside fill operations when the bridge was originally constructed in the 1930s. Although the project would result in temporary, short term impacts to California red legged frog habitat, the end result of the proposal would be a 610 m² increase of available habitat when compared to preflood conditions. Thus, over the long term, the species would benefit from the proposal.

For this specific population of the California red legged frog, the habitat extends about 365 m upstream and 365 m downstream of the project site for a total linear creekside distance of about 730 m. The project site itself is relatively small, less than 20 m long. There would be no anticipated impacts to the upstream or downstream California red legged frog habitat. Temporary impacts to habitat would occur within the 20 linear meters of the project site and these impacts would last only as long as construction takes place, about nine months, roughly from March 1999 through November 1999, and take place on a small percent (about 2.7 percent) of the total available habitat. Additionally, once construction would be completed and habitat restoration conducted, more habitat would be available when compared to preflood conditions because much of the old fill under the failed bridge abutments would be removed resulting in about 610 m² of restored habitat.

Project activities have the potential to impact California red legged frog habitat. To minimize such impacts, avoidance, to include implementation of USFWS minimization measures detailed in the "Mitigation" section above, would be implemented during the construction and post construction phases to help assure habitat availability for the California red legged frog in perpetuity.

In summary, the California red legged frog is found in populations throughout California from the coastal areas, large portions of the Central Valley, and into the eastern Sierras. Considering the California red legged frog is found throughout much of California, a nine month period of bridge replacement construction on a 20 m long portion of habitat immediately followed by habitat restoration and replacement would create no appreciable long term effects on the total California red legged frog population or its habitat, either in this reach of Chalone Creek or the State of California. Although project activities have the potential to impact habitat, avoidance, to include implementation of USFWS minimization measures (see #6 above), would help assure habitat availability for the California red legged frog in perpetuity. Additionally, once bridge construction and habitat replacement would be complete, there would be about 610 m² more habitat than before the original bridge collapsed. Moreover, after the project would be completed and habitat restored, it would be expected that California red legged frogs upstream and down stream would almost immediately move into the replaced habitat. The proposed action may affect California red legged frog habitat but, with the combination of minimum habitat impact for this project, habitat avoidance, and a 610 m² increase of habitat over existing conditions, it is not likely the California red legged frog or its continued existence would be adversely affected.

The top 10 cm of the box girder faces of the replacement bridge would be textured to provide gripping surfaces (roosting habitat) for the big brown bat, western small-footed myotis bat, and the little brown bat. The objective would be to provide replacement habitat and not new habitat.

Cumulative Impacts: Ultimately, once bridge construction and habitat replacement would be completed, there would be more essential habitat for the California red legged frog and California tiger salamander than before the original bridge collapsed. Replacement bat roosting habitat would be provided.

Conclusion: The proposed action would result in short term affects to California red legged frog and California tiger salamander habitat but, with the combination of habitat avoidance, minimum habitat impact, habitat restoration during the post construction period, and a 610 m² increase of habitat over existing conditions, it is not likely the California red legged frog or the California tiger salamander or their continued existence would be adversely affected by this project. Thus, over the long term, the species' would benefit from the proposal. Replacement bat roosting habitat would be provided.

Visitor Use and Monument Operations: Over the short term, the visitor experience would be adversely affected by noise, dust, fumes, possible delays, visual intrusion, and construction vehicle traffic for the duration of construction activities which would be expected to last about nine months. The long term effect on the visitor experience would be positive. Monument operations would be much improved over existing conditions.

Construction vehicles associated with the project would contribute to traffic using nearby roads. However, major construction-related traffic delays on these roads are not anticipated. Because of frequent use by heavy vehicles, there might be some potential for road and bridge damage; enforcement of weight limits and other federal, state, and local regulations and contractual stipulations would minimize the potential for conflicts and/or damage.

At the construction site, the posted speed limit would be maintained at 5 MPH and stop signs installed at both ends of the Bailey bridge. This would encourage drivers to slow then stop before entering or exiting temporary bridge approaches and the bridge itself. Since the merging lanes and construction site are on a principal park road, the delays could cause some congestion during periods of heavy visitation. Signing and traffic control would continue to be maintained on both sides of the bridge during construction.

The Chalone Creek bridge has a summer weekend traffic volume of approximately 400 vehicles. The proposed 3.6 m wide travel lanes of the replacement bridge meet the NPS minimum standard for roads of that volume and are sufficient to meet the needs of traffic operations.

Over the short term, some visitors would be dissatisfied because they would be inconvenienced due to some short term traffic delays associated with bridge construction. Efforts by monument staff to inform the public of construction-related delays through the media could mitigate visitor dissatisfaction, at least to some extent.

The long term effect on the visitor experience would be positive. Road safety standards, bridge dependability, and driving comfort would be improved. The replacement bridge would provide an enhanced visitor experience and reduce frustration for visitors; safe, convenient, and timely access into and out of the east unit of the monument would be provided. Monument operations would improve over present conditions due to ease of all traffic flow over the replacement bridge.

The potable water line built into the replacement bridge would provide a reliable water source for the Bear Gulch area of the monument.

Cumulative Impacts: Monument operations would be more efficient with a permanent replacement and reliable potable water supply for the Bear Gulch area.

Conclusion: Over the short term, the visitor experience would be adversely affected by noise, dust, fumes, possible delays, visual intrusion, and construction vehicle traffic for the duration of construction activities. The long term effect on the visitor experience would be positive. Due to a permanent replacement bridge and dependable potable water source, monument operations would be much improved over existing conditions.

COMPLIANCE

This environmental assessment provides disclosure of the planning and decision-making process and potential environmental consequences of the alternatives. The analysis of environmental consequences was prepared on the basis of a need to adequately analyze and understand the consequences of the impacts related to the proposed monument developments and to involve the public and other agencies in the decision-making process.

In implementing this proposal, the NPS would comply with all applicable laws and executive orders, including the following:

NEPA: The environmental analysis was prepared in accordance with the regulations of the Council on Environmental Policy Act (CEQ) (40 CFR 1500 et seq.) and in part 516 of the U.S. Department of the Interior's Departmental Manual (516 DM).

The National Environmental Policy Act (NEPA) is the basic national charter for environmental protection; among other actions it calls for an examination of the impacts on the components of affected ecosystems. The 1975 Pinnacles NM Master Plan, 1980 Pinnacles NM Statement for Management, 1988 NPS *Management Policies*, NPS-77 (*Natural Resources Management*), and the 1976 *Natural Resources Management Plan, Pinnacles National Monument*, among other NPS and park policies, provides general direction for the protection of the natural abundance and diversity of all the monument's naturally occurring communities.

Various agencies have been contacted and consulted as part of this planning and environmental analysis effort. Appropriate federal, state, and local agencies have been contacted for input, review, and permitting in coordination with other legislative and executive requirements.

Air Quality: Clean Air Act, as amended (42 USC 7401 et seq.). Pinnacles NM is designated as a class I clean air area. Maximum allowable increases (increments) of sulfur dioxide (SO₂), particulate matter (TSP), and nitrogen oxides (NO_x) beyond baseline concentrations established for class I areas cannot be exceeded. Section 118 of the Clean Air Act requires all federal facilities to comply with existing federal, state, and local air pollution control laws and regulations.

Special Status Species: Endangered Species Act of 1973, as amended (16 USC 1531 et seq.). Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. Consultation with the U.S. Fish and Wildlife Service would again be conducted before construction to ensure that no newly listed species have been found on site.

Wilderness: The NPS wilderness management policies are based on statutory provisions of the 1916 NPS Organic Act, the 1964 Wilderness Act, and legislation establishing individual units of the national park system. A unit of the National Wilderness Preservation System is a site

designated by Congress and legally protected as wilderness in perpetuity. The 1988 NPS *Management Policies* require the administration of NPS managed wilderness areas for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness. Among other mandates are the protection of wilderness areas and the preservation of their wilderness character.

Hazardous Waste: If any unknown hazardous waste is found in areas proposed for development or visitor use, the NPS would comply with the Comprehensive Environmental Response Compensation and Liability Act (42 USC 9601 et seq.) to determine if resources are being polluted by the substance or if it presents a health and safety issue. If any excavated material is determined to be hazardous, the NPS would comply with the Resource Conservation and Recovery Act (42 USC 6901 et seq.)

Cultural Resources: The NPS is mandated to preserve and protect its cultural resources through the organic act of August 25, 1916, and through specific legislation such as the Antiquities Act of 1906, the National Environmental Policy Act of 1969 (as amended), and the National Historic Preservation Act of 1966, NPS *Management Policies*, the *Cultural Resources Management Guideline* (NPS 28), and the Advisory Council on Historic Preservation's implementing regulations regarding "Protection of Historic Properties" (36 CFR 800). Other relevant policy directives and legislation are detailed in NPS 28.

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies having direct or indirect jurisdiction over undertakings consider the effect of those undertakings on properties on or eligible for listing on the national register and afford the Advisory Council on Historic Preservation and the state historic preservation office an opportunity to comment.

The 1992 amendments to the National Historic Preservation Act and the Archeological Resources Protection Act provide means whereby information about the character, location, or ownership of archeological sites, historic properties, and ethnographic sites, including traditional and cultural sites, might be withheld from public disclosure. This provision is especially important in cases where disclosure could risk harm to the resource or impede the use of a traditional site by practitioners.

Should unknown resources be uncovered during construction, the NPS would conduct intensive documentary research and subsurface surveys to identify any resources in the area of effect. Should buried deposits be located, or should impacts to previously identified sites be unavoidable, data recovery excavations would be undertaken. These subsurface survey and data recovery efforts would be guided by a project-specific research design. Additionally, the National Park Service would consult under the Native American Graves Protection and Repatriation Act in the event that buried human remains are discovered during archeological excavations or project development.

SELECTED REFERENCES

Executive Orders

Executive Order 11988 (Floodplain Management)
Executive Order 11990 (Protection of Wetlands)
Executive Order 12898 (Environmental Justice)

National Park Service, U.S. Department of the Interior

Director's Order
DO2 (*Planning Process Guidelines*)

NPS-12 (*NEPA Guideline*)
NPS-28 (*Cultural Resource Management*)
NPS-65 (*Explosives Use and Blasting Program*)
NPS-77 (*Natural Resources Management*)

1916 NPS Organic Act
1975 Pinnacles National Monument Master Plan
1980 Pinnacles National Monument Statement for Management
1988 *Management Policies*
1993 Pinnacles NM East Unit Development Concept Plan

U.S. Federal Government

1864 Act of Congress (13 Stat. 325)
1890 Act of Congress (26 Stat. 650)
1906 Joint Resolution of Congress (34 Stat. 831)
1955 Federal Air Quality Law
1963 Clean Air Act, as amended
1964 Wilderness Act
1966 National Historic Preservation Act
1968 The Architectural Barriers Act (P.L. 90-480)
1969 National Environmental Policy Act (NEPA)
1973 The Rehabilitation Act (P.L. 93-112)
1973 Endangered Species Act, as amended
1977 Clean Water Act
1984 California Wilderness Act
1984 Uniform Federal Accessibility Standards (49 CFR 31528)
1990 Native American Graves Protection and Repatriation Act

36 CFR 800.11 40 CFR, Part 503

CONSULTATION/COORDINATION

Preparers

Federal Highway Administration, Central Federal Lands Highway Division
Carolyn Davis, Design Team Leader
Ken Drain, Project Engineer for Emergency Demolition.
Richard L. West, Project Manager

National Park Service, Denver Service Center
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Joan Degraff, Cultural Resource Specialist
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Chad Moore, Physical Scientist
Brian Strack, Chief of Maintenance
Larry Whalon, Resource Management Specialist

National Park Service, Western Regional Office
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Consultants

US Army Corps of Engineers, San Francisco, CA
Mark D'Avignon, Regulatory Project Manager
Ed Wiley, Chief, Regulatory Branch

US Fish And Wildlife Service, Ventura, CA
Amelia Orton-Palmer, Fish and Wildlife Biologist

Appendix A

**US Fish and Wildlife Service
List of Special Status Species dated April 20, 1998**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

April 20, 1998

Stephen E. Stone
National Park Service
Denver Service Center
12795 West Alameda Parkway
P.O. Box 25287
Denver, Colorado 80225-0287

Subject: Species List for the Pinnacles National Monument, San Benito County (Package 465, Project Type 15)

Dear Mr. Stone:

This letter is in response to your request, dated March 9, 1998 and received by the U.S. Fish and Wildlife Service (Service) on March 12, 1998, for information on listed, proposed, and candidate species that may occur in the vicinity of your proposed project at Pinnacles National Monument in San Benito County, California. The requested information will be used by the National Park Service (NPS) as part of its project analyses for replacement of the failed Chalone Creek Bridge at Pinnacles National Monument. We have enclosed a list of endangered, threatened, and candidate species which are known to occur in San Benito County. This list fulfills the requirements of the Service under section 7(c) of Endangered Species Act of 1973, as amended (Act).

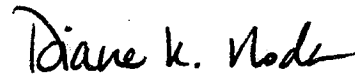
The threatened California red-legged frog (*Rana aurora draytonii*) is known to breed in Chalone Creek at and upstream of the failed bridge site. The NPS, as the lead Federal agency for the project, has the responsibility to review its proposed activities and determine whether the California red-legged frog or any listed species may be affected. If the project is a construction project which may require an environmental impact statement^{1/}, the NPS has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species. If the NPS determines that a threatened or endangered species will likely be adversely affected, the NPS should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species prior to a written request for formal consultation. During this review process, the NPS may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Only listed species receive protection under the Act. However, candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

The Service recommends that you review information in the California Department of Fish and Game's (Department) Natural Diversity Data Base (NDDDB) and that you contact the Department at (408) 649-2870 for information on other species of concern that may occur in the project areas. The NDDDB also includes information on reported occurrences of listed species. We recommend you contact the National Marine Fisheries Service for information on listed species for which it is responsible.

Should you have any questions regarding the species listed or the NPS's responsibilities under the Act, please contact Amelia Orton-Palmer of my staff at (805) 644-1766.

Sincerely,



Diane K. Noda
Field Supervisor

Enclosure

^{1/} "Construction Project" means any major Federal action which significantly affects the quality of the human environment designed primarily to result in the building or erection of man-made structures such as dams, buildings, roads, pipelines, channels and the like. This includes Federal actions such as permits, grants, licenses, or other forms of Federal authorizations or approval which may result in construction.

**LISTED AND CANDIDATE SPECIES
WHICH ARE KNOWN TO OCCUR IN
SAN BENITO COUNTY, CALIFORNIA**

Mammals

San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	E
San Joaquin Valley woodrat	<i>Neotoma fuscipes riparia</i>	C

Birds

Bald eagle	<i>Haliaeetus leucocephalus</i>	T
American peregrine falcon	<i>Falco peregrinus anatum</i>	E
Mountain plover	<i>Charadrius montanus</i>	C

Reptiles

Blunt-nosed leopard lizard	<i>Gambelia silus</i>	E
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Amphibians

California red-legged frog	<i>Rana aurora draytonii</i>	T
California tiger salamander	<i>Ambystoma californiense</i>	C

Invertebrates

Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	E
Longhorn fairy shrimp	<i>Branchinecta longiantenna</i>	E
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T

Plants

San Benito evening-primrose	<i>Camissonia benitensis</i>	T
Hoover's eriastrum	<i>Eriastrum hooveri</i>	T
San Joaquin woolly-threads	<i>Lembertia congdonii</i>	E

Key:

E - Endangered T - Threatened C Critical habitat

PE - Taxa proposed for listing as endangered

PT - Taxa proposed for listing as threatened

PCH - Critical habitat which has been proposed

C - Candidate species for which the Fish and Wildlife Service has on file sufficient information on the biological vulnerability and threats to support proposals to list as endangered or threatened.

Appendix B

Letter Requesting Formal Section 7 Consultation

D18(DSC-RP)
PINN-465-15

Ms. Diane Noda, Field Supervisor
Attention: Ms. Amelia Orton-Palmer
U.S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, California 93003

Dear Ms. Noda:

Reference: Pinnacles National Monument, Package 465, Replace Chalone Creek Bridge, Project Type 15

Subject: Request for Section 7 Consultation: 50 CFR 402.14(c)
California Red Legged Frog (*Rana Aurora draytonii*) (threatened)

The National Park Service (NPS) is requesting initiation of consultation under Section 7 of the 1973 Endangered Species Act, as amended, for a bridge replacement project on Chalone Creek in Pinnacles National Monument (NM), San Benito County, California. (Please see the enclosed site plan.)

The NPS is proposing to construct a permanent replacement bridge spanning Chalone Creek because the original bridge was washed out by heavy rains and floods in February, 1998. A temporary replacement bridge was installed in March 1998. The Chalone Creek bridge is a critical link in day-to-day monument operations, and visitor use and enjoyment.

The threatened California red legged frog (*Rana aurora draytonii*) is known to inhabit this reach of the Chalone Creek and the project site (USFWS letter to Steve Stone, NPS, Denver, Colorado, April 20, 1998).

Informal endangered species consultation took place with Amelia Orton-Palmer, Fish and Wildlife Biologist, Ventura, California, between February 23 and March 2, 1998 (including an on-site inspection with NPS and Federal Lands Highway Administration staff on March 2).

This bridge replacement project is a National Park Service emergency action. The Chalone Creek Bridge provides the sole vehicle access link to monument headquarters and other essential administrative functions, the visitor center, staff housing, visitor use services and facilities, and emergency access (such as but not limited to fire and medical). After the original bridge failed, the east side of the monument was accessible on foot only by two foot bridges across Chalone Creek and a foot trail approximately $\frac{1}{2}$ mile long. Therefore, for all practical purposes, a majority of the monument was essentially closed because of the failed bridge.

The USFWS has agreed with the NPS assessment that this is an emergency project. Ms. Orton-Palmer provided minimization measures to ensure minimal impacts to the California red legged frog and its essential habitat during the emergency failed bridge removal and installation of a temporary Bailey bridge. The minimization measures would also be implemented during the design and construction phase of the permanent replacement bridge. Ms. Orton-Palmer agreed with the NPS request to conduct USFWS Section 7 consultation for the entire project (emergency failed bridge removal, temporary Bailey bridge installation, and planning for the permanent bridge construction) during planning for the permanent bridge.

An Environmental Assessment (EA) is being prepared for the project. The EA will also serve as a Biological Assessment (BA) for the federally listed threatened California red legged frog. Anticipated public review date is September 1998.

Enclosed is a summary of the proposed action, a description of the manner in which the action may affect any listed species, and an analysis of any cumulative effects.

We appreciate your continuing assistance with National Park Service projects.

If you have any questions or comments, please feel free to call me at 303-969-2252.

Sincerely,

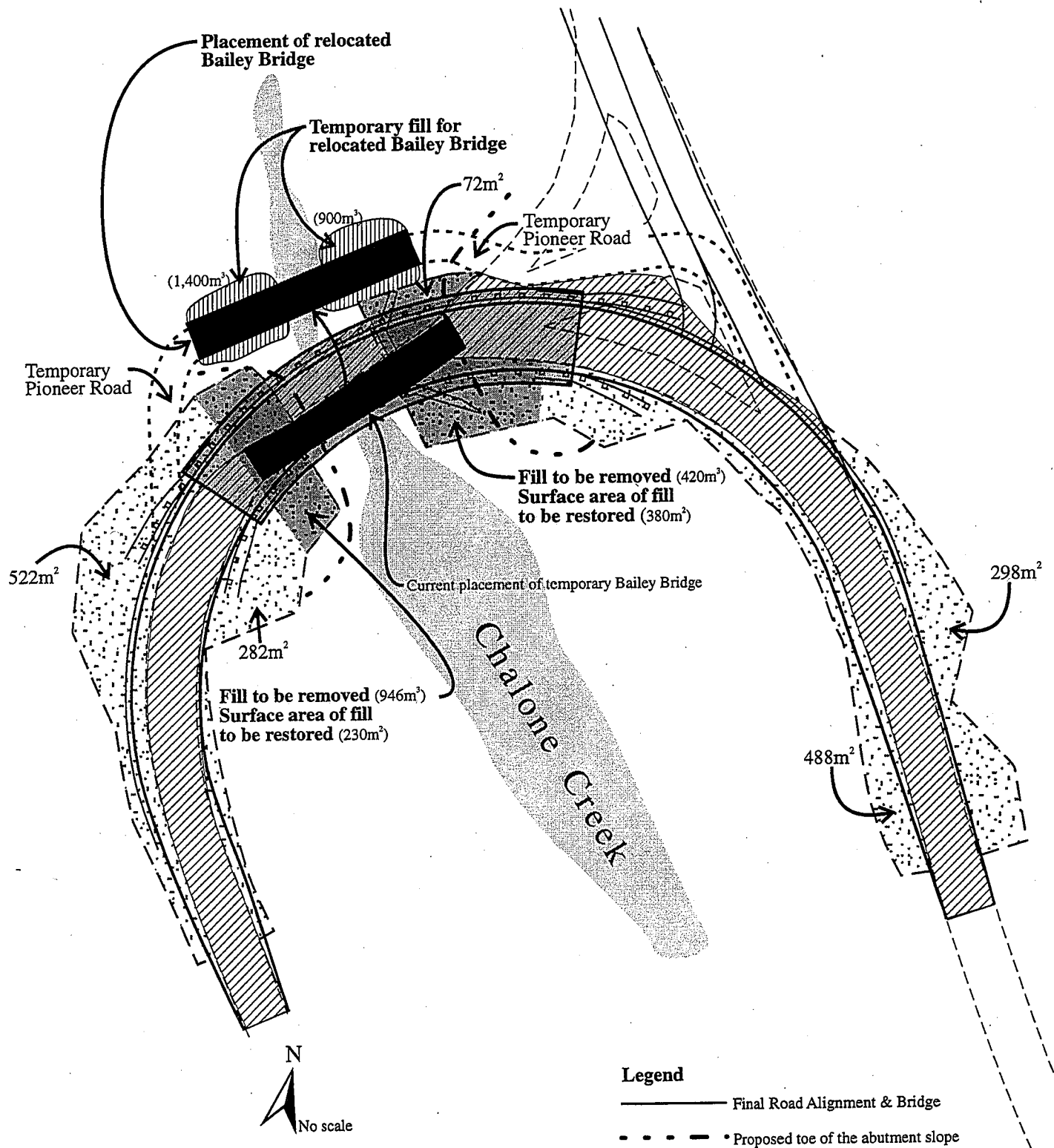
Stephen E. Stone
Natural Resource Specialist

Enclosure

cc:
Supt. Pinnacles NM, w/encl.

bcc:
DSC-PM-Alesch, w/encl.
✓ DSC-RP-Stone, w/encl.

RP:SStone:lh:05/21/98:2310:sec-7.ss1



SITE PLAN Pinnacles National Monument

United States Department of the Interior / National Park Service
DSC/July '98/114/20,016

REPLACE CHALONE CREEK BRIDGE
Project 465-15

Pinnacles National Monument
San Benito County, California

Request For Formal Section 7 Consultation for the
Threatened California Red Legged Frog
(*Rana aurora draytonii*)

1. **A DESCRIPTION OF THE ACTION TO BE CONSIDERED** (see also attached Site Plan): The National Park Service proposes to construct a permanent replacement bridge spanning Chalone Creek at Pinnacles National Monument, San Benito County, California. This action is needed because the original bridge was washed out in February, 1998, and replaced with a temporary Bailey bridge in March, 1998. The permanent replacement bridge would be a structure about 9 m wide and 42 m long. The Chalone Creek bridge is a critical link in day-to-day monument operations and visitor use and enjoyment.

- A. **Remove The Failed Structure From The stream:** At the project site, a temporary pioneer roadway about 3 m wide by about 14 m long (42 m²) was constructed. This pioneer road goes down one bank, cross the creek, and up the other bank. However, only about half this area, or about 21 m² is on land (the creek banks). An appreciable portion of the creek banks where the pioneer road was developed, especially the east bank, was scoured and eroded by the rains and floods of February, 1998.

Development of the pioneer road was required to provide equipment access into the failed bridge area, dismantle the failed bridge and abutments, wingwalls, and foundations, and remove the debris from the site. The temporary pioneer roadway would be obliterated and the site revegetated with species native to the site when work to construct the permanent bridge is complete.

- B. **Rebuild the Bridge Approaches:** Concrete bridge and abutment pieces, including the stone facing, that are free of reinforcing steel and asphalt pavement, were salvaged to the extent possible to use for backfilling the scoured out bridge approach areas where the abutments and wingwalls were removed. Additional material from monument approved sources was used as needed to reestablish the scoured out banks at the bridge approaches.

- C. **Prepare The Site For The Bailey Bridge:** The asphalt roadway pavement of the bridge approaches were removed and disposed of; the subgrade was recompact. Four support pads were constructed with a width 1 m x 1 m, using 10.16 cm minus, uniformly-graded material, topped with wooden planks for the installed 33 m long Bailey bridge. All unused salvage and waste material was removed and dispose of at approved locations outside the monument.

- D. **Construct Permanent Replacement Bridge:** The proposed action is to temporarily relocate the Bailey bridge now in place at the site of the failed bridge about 10 m (+/-) upstream; this would provide visitor and administrative access into the east side of the monument during permanent bridge construction.

The relocated Bailey bridge would be placed on the site of the temporary pioneer road which was developed in order to remove the failed bridge debris and abutments and install the temporary Bailey bridge. A total of about 2,300 m³ of temporary fill would be required

on both the east and west creek banks in order to support the relocated Bailey bridge. Once construction of the permanent bridge would be complete, the relocated Bailey bridge and fill would be removed and the entire construction zone, including the site of the relocated Bailey bridge, would be recontoured as close as possible to natural conditions and revegetated with species native to the project area.

To construct the permanent bridge, the original bridge abutment foundations would be removed and a new bridge constructed on the site of the failed bridge. The replacement bridge would be a cast-in-place concrete and steel structure 42 m long, 9 m wide with two 3.6 m wide paved travel ways and 0.6 m wide paved shoulders. The bridge would have a center pier support column. Replacement bridge abutments would also be constructed.

A 10.16 cm phone duct, a 10.16 cm potable water line, and a 15.24 cm electric duct (for future use) would be included in the bridge design.

The east and west bridge approaches would be slightly realigned to improve the bridge approaches.

Most of the fill (approximately 1,366 m³ with a surface area of 610 m²) that was placed in the east and west banks of the creek bed when the failed bridge was originally constructed in the 1930s would be removed.

Construction for this project would be expected to last approximately nine months, roughly from early March 1999 through November 1999; however, construction could be delayed by weather conditions or other unexpected events.

2. **A DESCRIPTION OF THE SPECIFIC AREA THAT MAY BE AFFECTED BY THE ACTION:** The Chalone Creek bridge site is located on Chalone Creek about 1 km northeast of the east entrance station of Pinnacles NM on Highway 146. The bridge crosses the creek from east to west and traverses south along a steep hillside ascending to the monument's visitor center in Bear Gulch.
3. **DESCRIPTION OF ANY LISTED SPECIES OR CRITICAL HABITAT THAT MAY BE AFFECTED BY THE ACTION:** California red legged frog (*Rana aurora draytonii*) (threatened) (*Federal Register*, Thursday, May 23, 1996).
4. **A DESCRIPTION OF THE MANNER IN WHICH THE ACTION MAY AFFECT ANY LISTED SPECIES OR CRITICAL HABITAT AND AN ANALYSIS OF ANY CUMULATIVE EFFECTS:**

Anticipated Environmental Impacts to the California Red Legged Frog: The Chalone Creek bridge site is used by the California red legged frog for breeding, foraging, and shelter. Residing in the monument's resource collection are preserved specimens of California red legged frogs collected at the Chalone Creek bridge site dating back to the mid 1960s.

In July and August in 1992, 1993, and 1994, nondestructive surveys of the California red legged frog population at the Chalone Creek bridge site were conducted. In 1992, seven adults, 15 juveniles, and over 400 larvae were observed; in 1993, 15 adults, 22 juveniles, and over 400 larvae were observed; in 1994, 22 adults, 34 juveniles, and over 400 larvae were observed (all numbers are approximate). The increased number of individuals observed from 1992 through 1994 are attributed to more accurate survey techniques and not necessarily an increase in the California red legged frog population at the bridge site. These surveys were specific to the Chalone Creek bridge site and do not represent nor

are reflective of the total California red legged frog population inhabiting the entire monument.

The proposed action would result in short-term effects to California red legged frog habitat but, with the combination of habitat avoidance, minimum habitat impact, habitat restoration during the post construction period, and a 610 m² increase of habitat over existing conditions, it is not likely the California red legged frog or its continued existence would be adversely affected by this project. Thus, over the long term, the species would benefit from the proposal.

The California red legged frog is found almost exclusively on the creek side of Bear Gulch road. Therefore, impacts to the frog and its habitat would be confined to this area.

Approximately 21 m² (less than 20 linear m up and down the creek bank) of California red legged frog creekside habitat was disturbed by emergency installation of the temporary Bailey bridge in March 1998. Approximately 793 m² of creek side habitat would be temporarily disturbed to relocate the temporary Bailey bridge about 10 m upstream and construct the permanent replacement Chalone Creek bridge on the site of the failed bridge. However, of this area, 21 m² would be on the area disturbed by development of the pioneer road during emergency installation of the Bailey bridge when the Chalone Creek bridge originally failed. Much of this 793 m² disturbance would also be within the 20 linear m of creekside habitat disturbed by emergency operations to install the temporary Bailey bridge. Therefore, the proposal to construct the permanent Chalone Creek bridge would temporarily disturb approximately 772 m² of California red legged frog habitat.

For this specific population of the California red legged frog, the habitat extends about 365 m upstream and 365 m downstream of the project site for a total linear creekside distance of about 730 m. The project site itself is relatively small, less than 20 m long. There would be no anticipated impacts to the upstream or downstream California red legged frog habitat. Temporary impacts to habitat would occur within the 20 linear m of the project site and these impacts would last only as long as construction takes place, about nine months, roughly from March 1999 through November 1999, and take place on a small percent (about 2.7 percent) of the total available habitat. The approximate 610 m² of fill removal and habitat restoration under the ends of the new bridge would restore that amount of California red legged frog habitat which was lost through creekside fill operations when the bridge was originally constructed in the 1930s. Although the project would result in temporary, short-term impacts to California red legged frog habitat, the end result of the proposal would be a 610 m² increase of available breeding, foraging, and sheltering habitat when compared to preflood conditions. Thus, over the long term, the species would benefit from the proposal.

The project site is essential habitat for the threatened California red legged frog; project activities have the potential to impact habitat. To minimize such impacts, avoidance, to include implementation of minimization measures provided by the USFWS for installation of the Bailey bridge (see #6, below), would be implemented during the construction and post construction phases of the permanent replacement bridge to help assure habitat availability for the California red legged frog in perpetuity.

Cumulative Impacts: Ultimately, once bridge construction and habitat replacement would be completed, there would be more essential habitat for the California red legged frog than before the original bridge collapsed.

5. **REPORTS, INCLUDING ANY ENVIRONMENTAL IMPACT STATEMENT, ENVIRONMENTAL ASSESSMENT, OR BIOLOGICAL ASSESSMENT PREPARED:** Consultation took place with Amelia Orton-Palmer, Fish and Wildlife Biologist, Ventura, CA, between February 23 and March 2, 1998 (including an on-site inspection with NPS and Federal Lands Highway Administration staff on March 2). Environmental Assessment and Biological Assessment underway. Anticipated public review date around September 1998.
6. **ANY OTHER RELEVANT AVAILABLE INFORMATION ON THE ACTION, THE AFFECTED LISTED SPECIES, OR CRITICAL HABITAT:** The USFWS has agreed with the NPS assessment that this is an emergency project. Ms. Orton-Palmer provided minimization measures to ensure minimal impacts to the California red legged frog and its habitat during the bridge removal and Bailey bridge installation. The minimization measures would also be implemented during the design and construction phase of the permanent replacement bridge. Ms. Orton-Palmer agreed with the NPS request to conduct USFWS Section 7 consultation for the entire project (emergency failed bridge removal, temporary Bailey bridge installation, and planning for the permanent bridge construction) during planning for the permanent bridge. The USFWS minimization measures are:
 - A. Fencing shall be erected to protect riparian vegetation on creek banks.
 - B. Workers shall be educated on presence of California red legged frogs and habitat and measures to be taken to minimize impacts.
 - C. Work activity shall be restricted to outside the creek bed as much as possible.
 - D. Flow of creek shall not be blocked.
 - E. Fueling of all machinery shall be conducted only in the equipment staging areas on the road.
 - F. Any spills of hazardous materials, fuel, etc., shall be cleaned up as soon as possible, and shall not be washed into the creek.
 - G. A qualified biological monitor shall be present during all construction activities and shall have the authority to temporarily halt activities if greater impacts may occur than anticipated.
 - H. All food-related trash items shall be kept in covered containers and removed from the work site daily.
 - I. Mitigation measures shall be implemented after construction of temporary bridge is complete and may entail restoration of riparian vegetation, rocks, and wood debris, as well as excavation of gravel under bridge area. These measures shall be conducted under the guidance of the NPS biologist staff.

SUMMARY: The California red legged frog is found in populations throughout California from the coastal areas, large portions of the Central Valley, and into the eastern Sierras. Considering the California red legged frog is found throughout much of California, a nine month period of bridge replacement construction on a 20 m long portion of habitat immediately followed by habitat restoration and replacement would create no appreciable long term effects on the total California red legged frog population or its habitat, either in this reach of Chalone Creek or the State of California. Although project activities have the potential to impact habitat, avoidance, to include implementation of USFWS minimization measures (see #6 above), would help assure habitat availability for the California red legged frog in perpetuity. Additionally, once bridge

construction and habitat replacement would be complete, there would be about 610 m² more habitat than before the original bridge collapsed. Moreover, after the project would be completed and habitat restored, it would be expected that California red legged frogs upstream and down stream would almost immediately move into the replaced habitat. The proposed action may affect California red legged frog habitat but, with the combination of minimum habitat impact for this project, habitat avoidance, and a 610 m² increase of habitat over existing conditions, it is not likely the California red legged frog or its continued existence would be adversely affected.

M:\PARK\PINN\465\SEC-7.001

