



White Wolf Lodge Rehabilitation

Finding of No Significant Impact
Section 106 Assessment of Effect for Phase 1
June 2014



YOSEMITE NATIONAL PARK

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INTRODUCTION

The White Wolf Lodge is a recreational facility located off the Tioga Road in Yosemite National Park at about 7,880 feet in elevation. The Main Lodge (Lodge) was originally built as a homestead sometime between 1884 and 1926. In 1926, the homestead was converted to a lodge and two duplex cabins were constructed. In the winter of 1968-1969, the Lodge collapsed and was subsequently rebuilt in its original configuration. The Lodge was determined eligible for listing in the National Register of Historic Places (NRHP) in 1988. It is adjacent to the Great Sierra Wagon Road, which is also a historic property. The White Wolf Lodge facility includes the Lodge (with kitchen, dining, and retail functions), two wood framed Duplex Cabins, twenty-four tent cabins, service structures, and a shared bath house.

The White Wolf Lodge Rehabilitation project will address a variety of structural needs, including foundation, siding, roof, and interior work on three structures (the Lodge and two Duplex cabins). The project will also improve compliance with the Architectural Barriers Act of 1968 (ABA) and *Director's Order #42: Accessibility for Visitors with Disabilities in National Park Service Programs and Services*. An environmental assessment (EA) and assessment of effect was prepared to satisfy the requirements of the National Environmental Policy Act and the National Historic Preservation Act (NHPA).

Due to funding constraints, project implementation will be divided into two phases. The National Park Service (NPS) will implement Phase 1 in summer 2015. Phase 2 and further Section 106 evaluation will be completed at a later date when funds become available. Phasing the project will not introduce any new impacts not previously considered or appreciably change the determination of the magnitude and intensity of environmental impacts.

PURPOSE AND NEED FOR FEDERAL ACTION

The purposes of the rehabilitation project are to (1) provide access for visitors and staff with disabilities; (2) build new foundations for the Lodge and Duplex Cabin structures to correct deterioration and settlement, control moisture infiltration, and reduce erosion from runoff; (3) rehabilitate the historic structures' roofs, floors, walls, and foundations to a condition that can be maintained through routine cyclical maintenance; and (4) install an accessible restroom in the Lodge parking area.

The poor condition of the Lodge and Duplex Cabins reflects heavy visitor use and exposure to extreme temperature variation and heavy snow loads. Inadequate design for snow loads, snow melt, and site drainage are the primary causes for deterioration of the buildings. The building foundations have suffered more deterioration than any other building component. The deterioration results in a

loss of capacity for the foundation to resist vertical and lateral stresses and places the wood framing members and exterior elements in direct contact with the soil and ground water. Wood columns, piers, and sill plates are in poor condition due to decay.

The Lodge currently contains a dining room/lounge and kitchen space. The kitchen and support spaces for food service within the building are ill-equipped to handle the volume of meals produced on a daily basis during the summer months. Support spaces with additional storage and freezers are located in the back of the Lodge and are not easily accessed from the kitchen.

Due to limitations such as existing terrain, the White Wolf Lodge facility is largely inaccessible for visitors and staff with disabilities, and it is noncompliant with current Architectural Barriers Act Accessibility Guidelines. Specifically, the facility lacks an accessible lodging unit, public restroom, dining room, kitchen, and paths of travel throughout the complex.

SELECTED ACTION: REHABILITATION

The NPS analyzed a no action alternative (Alternative 1) and a rehabilitation alternative (Alternative 2) in an environmental assessment that was released to the public in February 2013. The Selected Action for the White Wolf Lodge Rehabilitation is the same as the rehabilitation alternative (Alternative 2) as presented in the EA, with phasing to address immediate work to be completed versus future work as funding becomes available.

The Selected Action includes rehabilitation of historic structures and improvements to the immediate site area. Existing buildings that will be rehabilitated under the Selected Action include the Lodge, two Duplex Cabins, and a storage building. New improvements beyond the current building footprint include (1) an extension of the sleeping room and bathroom at Duplex Cabins 1/2 for ABA compliance; (2) construction of an accessible unisex public restroom building adjacent to the paved parking strip; and (3) construction of a food storage building west of the kitchen to house the existing refrigerator and freezer storage units. In addition, on-site parking alterations, accessible pedestrian pathways, and site drainage improvements will take place in the area surrounding the buildings.

The primary building performance concerns relate to the foundations and floor framing. Severe decay of wood structural members and the displacement of support piers and footings have compromised the structural stability of the buildings. The Selected Action will fully replace the foundations, and repair, replace, and/or construct supplemental shoring of the floor in the Lodge. Additional upgrades include (1) replacement of the power distribution system and electrical panels and (2) site grading and drainage/foundation improvements to minimize flow of water under the buildings.

The Selected Action is consistent with the rehabilitation treatment approach as defined in the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The treatment selected is appropriate because it provides for repair and protection of the character-defining features of the historic complex, while simultaneously allowing for necessary code, structural, and functional upgrades that will enable continued compatible use and improved visitor experience. New additions and alterations will be compatible with the historic character of the built environment to the extent practicable and will maintain significant spatial relationships in the landscape.

The NPS plans to implement the Selected Action using a phased approach. Phase I includes work on the Lodge and related utilities, construction of a freestanding accessible restroom adjacent to the parking area, and construction of an accessible path of travel from the parking area to the Lodge. Phase 1 will have no adverse effects to historic properties and it will be completed in accordance

with the 1999 Programmatic Agreement among the National Park Service at Yosemite, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Planning, Design, Construction, Operations and Maintenance, Yosemite National Park, California (1999 PA).

Phase 2 of the project includes work on both Duplex Cabins, including accessibility modifications to Duplex Cabins 1/2 and the installation of an accessible path. The second phase of the rehabilitation project cannot be completed until additional funding becomes available to determine if the entire White Wolf Lodge facility, including the campground, is eligible for listing in the NRHP as a historic district. Phase 2 will include additional compliance to satisfy the NHPA Section 106 requirements. Yosemite National Park will complete and submit a consensus determination of eligibility (DOE) to the State Historic Preservation Officer (SHPO) for review and concurrence as part of Section 106 compliance, which will be conducted either under the park's parkwide Programmatic Agreement with SHPO if one exists at the time or under the standard review process in 36 CFR Part 800.

Scope of Phase 1 – Main Lodge Stabilization

Phase 1 of the White Wolf Lodge Rehabilitation project consists of actions required to stabilize the Lodge, improve on-site parking, install an accessible restroom in the parking area, and construct an accessible path of travel from the parking area to the Lodge. The specific actions are as follows:

- Install a new foundation under the Lodge.
- Replace the wood deck at the Lodge using similar materials, including a new post-and-pier foundation. A new ramp will be attached to the existing deck to provide an accessible path of travel to the front doors of the dining room.
- Remove the existing floor in the Lodge to facilitate construction of the new foundation. Existing board flooring will be salvaged and reinstalled where feasible. Where salvaged materials are not possible, in-kind materials will be used to replace flooring.
- Repair/patch existing wall materials within the Lodge after foundation replacement using existing materials or replacement with in-kind materials where reinstallation is not feasible.
- Repair existing roof framing with in-kind materials.
- Stabilize the non-reinforced chimney by (1) installing steel bracing from the new roof sheathing to the stone chimney above the roof eave, (2) embedding and mortaring the steel braces to the existing chimney, and (3) enclosing the steel braces inside a new snow diverter (splitter) located between the chimney and the new roof sheathing.
- Repair/replace deteriorated plumbing under the Lodge flooring.
- Install a new grease trap.
- Install a code-compliant electrical system to/within the Lodge.
- Construct a new unisex, accessible restroom in a free-standing structure adjacent to the Lodge parking area.
- Delineate and pave an accessible path of travel from the parking area to the new Lodge ramp.
- Remove trees in close proximity as necessary for building stabilization.
- Upgrade paths of travel to the Lodge based on current code requirements.
- Install overhead power distribution lines from the existing generator.

- Construct a new refrigeration/freezer and storage building attached to existing kitchen. With this action, the existing refrigeration/freezer building will be removed.

Scope of Phase 2 – Accessibility and Cabin Upgrades

- Install an accessible pedestrian path of travel from the parking area to Duplex Cabins 1/2.
- Upgrade Duplex Cabins 1/2 for accessibility including expanding the footprint to accommodate new accessible bathrooms and install new doors.
- Construct a curb apron to direct surface runoff and site drainage to avoid foundation deterioration.
- Repair cabin roofs.
- Rehabilitate cabin siding.
- Rehabilitate cabin windows and doors.
- Construct new foundations to replace the existing stone supports.
- Install new energy efficient heating.
- Replace electrical, plumbing, and water heaters.
- Remove trees as necessary for building stabilization.

PRELIMINARY ALTERNATIVES CONSIDERED BUT DISMISSED

Several design alternatives were developed to address accessibility strategies during the planning process for this project (two alternatives for site accessibility and three alternatives for cabin accessibility). Alternatives for two additional rehabilitation components (Lodge foundation and drainage and Duplex Cabin foundation and drainage) were discussed during the initial information phase of the value analysis workshop held on December 9, 2010. Because these options did not materially affect the broader evaluation criteria selected in the choosing-by-advantages portion of the value analysis, the park determined that the alternatives evaluation should be based on technical and cost considerations. Those design components that were not incorporated into the Selected Action did not meet the purpose and need, were not technically feasible, would result in greater environmental impacts, and/or were not economically feasible.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources (46 *Federal Register* 18026 – 18038). As documented in the EA, analysis of environmental impacts and mitigation strategies indicated that Alternative 2 (the Selected Action) best met the environmentally preferred criteria and achieves the best balance between the need for improving the structural stability of the buildings, visitor experience, park and concessioner operations, and preserving the site's historic character.

WHY THE SELECTED ACTION WILL NOT SIGNIFICANTLY AFFECT THE ENVIRONMENT

Table 1 presents a summary of all foreseeable impacts of the Selected Action. In regards to 40 CFR 1508.27 and the ten criteria for determining significance, project implementation will not directly or indirectly result in any impacts which could significantly affect the quality of the human environment, either singularly or cumulatively.

Table 1. Summary of Impacts of the Selected Action

Impact Topic	Selected action
Geology and Soils	Foundation work for the Lodge and Duplex Cabins will affect localized shallow subsurface geology and soils. Activities under the Selected Action reduce the potential for erosion around buildings and improve structural resistance to seismic shaking, resulting in a site-specific, long-term, minor beneficial impact through reduction in potential seismic (geologic) hazards. Overall there will be site-specific, short-term, minor adverse impacts on soils during rehabilitation activities, and site-specific, long-term, minor adverse impacts on geology and soils following rehabilitation due to installation of curb aprons that will direct water around the buildings.
Vegetation	Vegetation impacts from the Selected Action include selective vegetation removal for construction of the path or new/expanded buildings, resulting in the loss of a few trees, shrubs, forbs, grasses and other plants. As a result, impacts from the Selected Action are expected to have long-term, local, minor adverse impacts on vegetation at the White Wolf Lodge facility. Minor short-term and indirect adverse impacts from construction may occur due to plant trampling and soil disturbance from building repairs. However, implementation of construction best management practices will be employed to minimize short-term construction impacts associated with trampling and erosion.
Special Status Species	See Special Status Species Section below.
Hydrology and Water Quality	Impacts on hydrology and water quality under the Selected Action will be site-specific, short-term, minor, and adverse during rehabilitation and site-specific, long-term, minor, and adverse following rehabilitation as a result of the disruption of natural sheet flow and infiltration from the installed apron and hardscape.
Archeological Resources	No known archeological sites will be adversely impacted by implementation of the Selected Action. Therefore, under Section 106 of the NHPA, there will be a “no historic properties affected” determination with respect to archeological resources.
Historic Structures and Cultural Landscapes	Phase 1 will result in a No Adverse Effect and work will be completed under the 1999 PA. Phase 2 will need an additional assessment of effect after a determination of eligibility is completed. During the course of rehabilitation and utility systems upgrade work, and particularly during tasks related to rehabilitating the exterior and interior of the buildings, original features and materials obscured by previous alterations may be uncovered and exposed. NPS historic architecture and historic cultural landscape subject matter experts will consult with the State Historic Preservation Office if necessary.
Visitor Experience	The Lodge will close during rehabilitation and construction, which is planned for summer 2015. Closure will result in a site-specific, short-term, moderate adverse impact on visitor experience. Several long-term beneficial impacts on visitor experience would occur. The rehabilitation of the Lodge complex will beneficially affect visitor experience by providing more efficient services, improved accessibility, and a new restroom. Implementation of the Selected Action is expected to result in overall beneficial impacts on visitor experience and recreation.
Park and Concessioner Operations	The modifications to White Wolf Lodge will result in long-term improvements that will reduce the annual maintenance and emergency repair costs at the Lodge and Duplex Cabins when compared to existing conditions, resulting in a beneficial impact on concessioner operations. Safety improvements to the Lodge will result in beneficial impacts on both park and concessioner operations by reducing the potential for visitor and staff accidents, and loss of short term revenue. Facilities will be closed for repairs during one summer.

Special Status Species

The purpose of this section is to disclose the impacts of Alternative 2 of the White Wolf Lodge Rehabilitation project on threatened, endangered, or proposed species or their designated and/or proposed critical habitats. This section of the document is prepared in accordance with requirements set forth under regulations implementing Section 7 of the Endangered Species Act (50 CFR 402; 16 U.S.C. 1536(c)). The listed and proposed species and critical habitat that may be affected by the proposed action are listed below (Table 2).

Table 2. Effect Determinations

Species	TES Status	Determination
Yosemite toad	Threatened	May Affect Not Likely to Adversely Affect
Yosemite toad – Critical Habitat	Proposed	May Affect Not Likely to Adversely Affect
Sierra Nevada yellow – legged frog	Endangered	No effect
Sierra Nevada yellow – legged frog – Critical Habitat	Threatened	No effect
Fisher	Candidate	No effect

The U.S. Fish and Wildlife Service (FWS) provided the park with a biological opinion (BO June 8, 2014) in response to a request for formal consultation on this project. The FWS concurred with the park's determination that the proposed rehabilitation activities are not likely adversely affect the Sierra Nevada yellow-legged frog (*Rana sierra*) because the nearest known population is approximately 2.5 air miles northeast of the project. The maximum overland distance from aquatic habitat this species has been recorded to move is 82 feet. Therefore, Alternative 2 will have insignificant or discountable effects on these animals.

The FWS concurred with the park's determination that there is a potential for the project to adversely affect individual Yosemite toads (*Anaxyrus canorus*, formerly *Bufo canorus*) as well as its upland habitat (Table 3). Proposed Critical Habitat (Tuolumne Segment 7) also occurs within the project area boundary. In order for the park to be exempt from the prohibitions of section 9 of the Endangered Species Act, the Biological Opinion provides terms, conditions, and conservation measures to avoid and minimize adverse effects to the Yosemite toad.

Status of Species and Critical Habitat for the Yosemite Toad in the Action Area

Field surveys near the project area confirmed the presence of Yosemite toads as well as evidence of breeding (tadpoles) in 2012, 2013, and 2014. Important biological habitat includes meadows for breeding and upland habitats that are used in summer for foraging. Yosemite toads move between meadows and upland habitat throughout the summer months both before and after breeding, which may involve crossing roads in the White Wolf project area. New information is emerging on the habitat use of Yosemite toads outside of meadows. C.T. Liang found that adult toads moved a mean distance of 270 m (864 ft.) from wetland habitats, and one individual moved a maximum distance of 1.26 km (4,032 ft.)¹. These distances are within the distances of proposed project activities and known breeding locations within meadows.

Critical Habitat

Activities related to the White Wolf Lodge Rehabilitation project will occur within Critical Habitat for the Yosemite toad (Tuolumne Unit 7).

Recovery Habitat

¹ Movements and Habitat Use of Yosemite Toads [*Anaxyrus* (formerly *Bufo*) *canorus*] in the Sierra National Forest, California. Journal of Herpetology, Vol. 47, No. 4, 555–564, 2013)

Recovery habitat has not been published.

Table 3. Potential effects to Yosemite toad under the Selected Action of the White Wolf Lodge Rehabilitation project.

Treatment	Direct Effects	Indirect Effects
Project equipment driving on roads through meadows (White Wolf main road), and adjacent to meadows (White Wolf service road), see EA Figure 2.	Crushing of individual toads migrating or emigrating from breeding sites in meadows or upland habitats for foraging	Harassment from noise and vibration from project equipment driving on roads
Construction activity on lodge and two duplex building foundations, see EA Figure 2.	Crushing of individual toads present around building foundations.	Harassment from noise and vibration from project equipment operating in area
Ground disturbing activities, moving rocks, soil disturbance, accessing building foundations.	Crushing of individual toads moving around rocks or collapsing burrows where toads may be present	Harassment from noise and vibration from project equipment operating in area

Summary

Yosemite toads are known to occur within 0.5 km of the project area and the project is within Proposed Critical Habitat (Tuolumne subunit 7A). There is the potential for the Selected Action to affect individuals as well as their upland habitat (Table 3). Direct effects from mortality of project equipment vehicles driving on the White Wolf main road and service road will be minimized by delaying the project start date until toad breeding is nearly complete (typically two weeks from the start of breeding). This will reduce the chance of toads crossing roadways between breeding and upland foraging habitats. Potential disturbance from construction activities around the Lodge and two Duplex Cabins and other ground disturbing activities will be reduced by conducting pre-surveys to identify the areas toads may occupy (such as mammal burrows and cover areas under rocks that can be flagged and avoided). No changes to Proposed Critical Habitat are expected. If individual Yosemite toads are found within the project area during pre-surveys or impacts to Proposed Critical Habitat occur, consultation with the US Fish and Wildlife Service will be re-initiated.

Cumulative Effects on the Yosemite Toad

When considered with past, present, and reasonably foreseeable future activities, any cumulative impacts to Yosemite toad or its preferred habitat as a result of implementing the Selected Action of the White Wolf Lodge Rehabilitation project are expected to be 'low' for the following reasons:

- Project implementation will not begin until two weeks after breeding has started in known breeding locations (meadows) in order to reduce road related mortality of immigrating and emigrating toads between upland and breeding habitats.
- The operating period for equipment on roads will be limited to daylight hours only where direct impacts are possible.
- Pre-surveys by a qualified wildlife biologist will be conducted to determine if toads are present in construction areas around foundations and equipment access points, and existing

burrows or openings will be flagged. Breeding areas in nearby meadows will also be surveyed to establish a date for project to begin.

- The project is small in scale
- The duration of effects from disturbance activities is short (1-2 years).

MITIGATION MEASURES

The NPS places a strong emphasis on avoidance, minimization, and mitigation of adverse impacts. Mitigation measures have been developed to ensure that construction and operational activities associated with the White Wolf Lodge Rehabilitation project protect natural, cultural, and social resources and the quality of the visitor experience. Mitigation measures that will be implemented prior to, during, and after construction of the improvements are itemized below in Table 4.

Table 4. Mitigation Measures

Mitigation Measure	Responsibility	Critical Milestones
GEOLOGY AND SOILS		
Use approved siltation and sediment control devices in construction areas to reduce erosion and surface scouring. When grading, capture eroding soil before discharge to riparian channels.	Contractor	Concurrent with project activities
GEOLOGY AND SOILS (CONTINUED)		
Conserve and salvage topsoil for reuse. Materials will be reused to the maximum extent possible.	Contractor	Concurrent with project activities
HYDROLOGY AND WATER QUALITY		
Where working areas are adjacent to or encroach on live streams, barriers shall be constructed that are adequate to prevent the discharge of turbid water in excess of specified limits. Use tightly woven fiber netting or similar material where necessary for erosion control or other purposes to ensure that the Yosemite toad does not get trapped, injured or killed. Do not use plastic mono-filament netting or similar material because individuals of these listed species may become entangled or trapped in it.	Contractor	Prior to and concurrent with project activities
Stabilize all disturbed soil and fill slopes in an appropriate manner.	Contractor	Prior to and concurrent with project activities
Store equipment and materials away from all waterways.	Yosemite National Park, Project Manager; Contractor	Concurrent with project activities
Contain wastewater contaminated with silt, grout, or other by-products from construction in a holding or settling tank to prevent contaminated material from entering watercourses.	Contractor	Concurrent with project activities
Remove hazardous waste materials generated during implementation of the project from the project site immediately.	Contractor	Concurrent with project activities
Dispose of volatile wastes and oils in approved containers for removal from the project site to avoid contamination of soils, drainages, and watercourses. Keep absorbent pads, booms, and other materials onsite during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous materials spills.	Contractor	Concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
Use silt fencing at drainages to prevent construction materials from escaping work areas.	Contractor	Concurrent with project activities
Material from construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows.	Contractor	Concurrent with project activities
VEGETATION AND VEGETATION SPECIAL STATUS SPECIES		
Ensure that all earth-moving equipment and hand tools enter the park free of mud or seed-bearing material to prevent the introduction of non-native plants. The NPS will inspect all equipment prior to use on the project. Map and treat noxious weeds prior to construction. Certify all seeds and straw material as weed-free. Ensure that imported top-soil is weed-free. The NPS will approve sources of imported fill material that will be used within the top 12 inches of the finished grade. Monitor and treat invasive plants for three years post-construction.	Yosemite National Park, Project Manager; Contractor	Prior to, concurrent with and following project activities
Install temporary fencing (black silt fencing or orange construction fencing) around the entire project area to protect natural surroundings (including trees and root zones) from damage. Avoid fastening ropes, cables, or fences to trees.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Use native seed mix or seed-free mulch to minimize surface erosion and the introduction of noxious weeds.	Contractor	Concurrent with project activities
While not expected with this project, the park botanist shall be notified if any special status plant species are identified in the project area. If special-status plant species are identified within the project area, the park botanist will work with the Project Manager to avoid impacts.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
WILDLIFE AND WILDLIFE SPECIAL STATUS SPECIES		
Provide information to the contractor regarding wildlife concerns at project briefings, and provide contractor specifications and best management practices to avoid activities that are destructive to wildlife and habitats. The project manager will consult with the park biologist to schedule construction activities with seasonal consideration of wildlife lifecycles to minimize impacts during sensitive periods (e.g., after bird nesting seasons, when bats are neither hibernating nor have young).	Yosemite National Park, Project Manager; Contractor	Concurrent with and following project activities
Limit the effects of light and noise on adjacent habitat through controls on construction equipment. No outdoor construction activities are to occur between dusk and dawn to eliminate the need for outdoor construction lighting, and to avoid disruption of mating, nesting, or foraging owls. Yosemite National Park, Project Manager; Contractor	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Prior to project activities, particularly tree removal or trimming, a qualified wildlife biologist will screen the area for bat roosts, nesting birds, and other features that are important to wildlife habitat. If found, the biologist will provide mitigation or direction for avoidance (e.g., flagging or avoiding the area, advise as to whether the activity must be delayed to ensure that sensitive species such as nesting migratory birds are protected and not disrupted).	Yosemite National Park, Project Manager working with the park wildlife biologist	Prior to project construction activities

Mitigation Measure	Responsibility	Critical Milestones
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Prior to project activities, a qualified wildlife biologist will conduct pre-surveys to determine if toads are present in construction areas around foundations and equipment access points, and existing burrows or openings will be flagged. Breeding areas in nearby meadows will also be surveyed to establish a date for project to begin.	Yosemite National Park, Project Manager working with the park wildlife biologist	Prior to project construction activities
Prior to project activities, a qualified wildlife biologist will conduct pre-surveys to determine if toads are present in construction areas around foundations and equipment access points, and existing burrows or openings will be flagged. Breeding areas in nearby meadows will also be surveyed to establish a date for project to begin.	Yosemite National Park, Project Manager working with the park wildlife biologist	Prior to project construction activities
Project implementation will not begin until two weeks after breeding has started in known breeding locations (meadows) in order to reduce road related mortality of immigrating and emigrating toads between upland and breeding habitats.	Yosemite National Park, Project Manager working with the park wildlife biologist	Prior to project construction activities
Ensure construction is limited to daylight hours only to avoid any direct impact to Yosemite toads in the construction area.	Yosemite National Park, Project Manager	Concurrent with project activities
<p>If appropriate, the National Park Service shall move Yosemite toads from within the 1.14 acre White Wolf Lodge site to a safe location</p> <p>Each Yosemite toad encounter shall be treated on a case-by-case, but the general procedure is as follows: (1) leave the non-injured Yosemite toad alone if it is not in danger; or (2) move the Yosemite toad to a nearby safe location if it is in danger.</p> <p>When a Yosemite toad is encountered within the 1.14 acre White Wolf Lodge site, the first priority is to stop all activities in the surrounding area that have the potential to result in the harassment, injury, or death of the individual. Then, the situation shall be assessed by a National Park biologist in order to select a course of action that will minimize adverse effects to the individual.</p> <p>Avoidance is the preferred option if a Yosemite toad is not moving and it is not moving or using a burrow or other refugia. A National Park Service biologist shall inspect the area and evaluate the necessity of fencing, signage, or other measures to protect the animal.</p> <p>If appropriate, the Yosemite toad shall be allowed to move out of the hazardous situation on its own volition to a safe location. The animal may not be picked up and moved based on it not moving fast enough or it is an inconvenience for activities associated with rehabilitation or operation. This only applies to situations where a Yosemite toad is encountered on the move during conditions that make their upland travel feasible. This does not apply to Yosemite toads that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species should the animal move outside the immediate area.</p>	Yosemite National Park, Project Manager	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
<p>The Yosemite toad shall be captured and moved by hand only when there is no other option to prevent harassment, injury, or death. If appropriate habitat is located immediately adjacent to the capture location then the preferred option is relocation to that site. The Yosemite toad should not be moved outside of the radius it would have traveled on its own.</p> <p>Under no circumstances shall a Yosemite toad be relocated to non-National Park Service property without the landowner's written permission.</p> <p>Only National Park Service biologists may capture Yosemite toads. Nets or bare hands may be used to capture the animals. Soaps, oils, creams, lotions, repellents, or solvents of any sort cannot be used on hands within two hours before and during periods when the biologist is capturing and relocating the Yosemite toad. If the animal is held for any length of time in captivity, they shall be kept in a cool, dark, moist environment with proper airflow, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting shall not contain any standing water, or objects or chemicals that may injury or kill a Yosemite toad.</p>	Yosemite National Park, Project Manager working with the park wildlife biologist	Prior to and concurrent with project construction activities
HISTORIC PROPERTIES –ONLY APPLIES TO PHASE 1		
To ensure compatibility, similar materials will be used, but will be distinguishable from the original structure.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
Minimize the visual impact of the new storage structure by making it secondary to the Lodge.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
Build the new restroom structure with compatible materials and size constraints and away from existing historic structures and the existing parking area.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
For compatibility with the site landscape, pathway materials will be stabilized, decomposed granite or similar, curbing will be made with natural materials, the use of new retaining walls will be minimized, and metal pipe railing will be painted a dark color to avoid reflectivity.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
All treatments within the historic landscape will be consistent with the rehabilitation standard under the <i>Secretary of The Interior's Standards for the Treatment of Historic Properties</i> .	Yosemite National Park, Project Manager	Prior to project activities
If encountered, archeological sites will be fenced off with orange hazard fencing by a professional archeologist. All project personnel would be briefed to stay out of areas with sensitive archeological resources.	Yosemite National Park, Project Manager; Contractor	Prior to project activities

PUBLIC INVOLVEMENT

The formal public scoping period for the *White Wolf Lodge Rehabilitation Environmental Assessment* began on August 15, 2011, and ended September 4, 2011. The park held a public open house at the Visitor Center Auditorium in Yosemite Valley on August 31, 2011; from 1 p.m. to 4 p.m. Members of the public were invited to submit comments by mail, through the Planning, Environment, and Public Comment system, and/or on comment forms that were made available during the public open house. Three comment letters from individuals were received during the public scoping period. Two of the

letters supported the project, and one recommended that the structures be removed, which was outside of the scope of the purpose and need.

During the public review period for the EA (February 24, 2013 to March 23, 2013), one comment was received. The letter did not contain substantive comments.

AGENCY CONSULTATION

California State Historic Preservation Office

The NPS initiated consultation with the SHPO on August 17, 2011 regarding the White Wolf Lodge Rehabilitation project. At that time, the park (1) identified the historic properties affected by the project, (2) requested the office's concurrence on the project's Area of Potential Effect (APE), and (3) sought confirmation on how the office would like to be involved. In a November 1, 2011 response to the park, the SHPO indicated that (1) the project constituted an undertaking, (2) the APE for the project was sufficient, and (3) they would like to proceed with consultation in accordance with the standard four-step process (36 CFR Part 800). Subsequently, phasing of the project was identified to address funding constraints and the need for further Section 106 compliance. On January 11, 2013, the SHPO agreed that that the park could proceed with Phase 1, which includes work on the Lodge, the freestanding accessible restroom, and accessible path of travel, as a No Adverse Effect determination in accordance with the 1999 PA.

In consultation with the SHPO, the park agreed that any additional work beyond Phase 1 would need a DOE on the Duplex Cabins, tent cabins, and associated circulation as a potential historic district. The NPS will continue consultation with the SHPO as necessary for work beyond Phase 1, including developing and submitting a DOE to the SHPO for review and concurrence prior to beginning design development for Phase 2.

American Indian Consultation

Yosemite National Park is consulting with traditionally associated American Indian tribes and groups having religious or cultural associations with the White Wolf Lodge area. In January 2011, the park initiated consultation with all seven traditionally associated tribes and groups for the White Wolf Lodge Rehabilitation project. A site visit was held on October 27, 2011; no comments were received. The American Indian tribes and groups received copies of the EA for review and comment; no comments were received.

U.S. Fish and Wildlife Service

Yosemite National Park received an updated record of listed species that may be in the project area of the White Wolf Lodge Rehabilitation project from the U.S. Fish and Wildlife Service (FWS) on May 24, 2014. On April 29, 2014, the FWS placed the following two species known from the vicinity of the White Wolf Lodge on the Federal Endangered Species List effective June 30, 2014: the Sierra Nevada yellow-legged frog (*Rana sierrae*) (endangered) and the Yosemite toad (*Anaxyrus canorus*) (threatened). Critical habitat was also proposed for the species throughout the White Wolf Lodge area.

As a result of the new amphibian listings, the NPS entered into formal consultation with the FWS and received a Biological Opinion from the FWS on June 8, 2014. The FWS concurred with the Park's determination that the proposed project is not likely to adversely affect the endangered Sierra Nevada yellow-legged frog and that there is the potential for the project to adversely affect individual Yosemite toads as well as its upland habitat. The Biological Opinion specifies terms and conditions that must be upheld to be exempt from the prohibitions of section 9 of the Endangered Species Act

(included in Table 4). The Biological Opinion also includes conservation recommendations. Receipt of the Biological Opinion concluded the NPS formal consultation with the FWS.

If, as the project progresses, new information reveals that the action could affect listed, proposed, or candidate species in a manner that was not previously considered; or a new species or critical habitat is designated that may be affected by the action; or changes in status occur; consultation under Section 7 of the Endangered Species Act will be initiated (50 CFR 402.14).

CONCLUSION

Based on the information contained in the *White Wolf Lodge Rehabilitation Environmental Assessment* as summarized above; the minimal nature of comments received from affected agencies and the public; and the incorporation of mitigation measures to avoid or reduce potential direct, indirect, and cumulative impacts; it is the determination of the NPS that the Selected Action is not a major federal action significantly affecting the quality of the human environment. As a result, and in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9), an environmental impact statement will not be prepared.

The Selected Action as detailed above and described in the *White Wolf Lodge Rehabilitation Environmental Assessment* may be implemented as soon as practicable.

Recommended:


Don L. Neubacher
Superintendent, Yosemite National Park


Date

Approved:


for Christine S. Lehnertz
Regional Director, Pacific West Region, National Park Service


Date

YOSEMITE NATIONAL PARK

REHABILITATION OF WHITE WOLF LODGE

DETERMINATION OF NON-IMPAIRMENT OF PARK RESOURCES

Pursuant to the 1916 Organic Act, the National Park Service (NPS) has a responsibility to manage national parks and “conserve the scenery and the natural and historic objects and the wildlife therein and provide for the enjoyment of future generations.” Congress has given NPS management discretion to allow impacts within parks, but that discretion is limited by the statutory requirement that the NPS must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. Because that mandate is compatible with the NPS mission and is generally enforceable by the federal courts, the NPS cannot take an action that will “impair” park resources or values.

The impairment that is prohibited by the Organic Act and the General Authorities Act is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect nature of the impact; and the cumulative effects of the impact in question and other impacts.

An impact would likely constitute impairment to the extent that it:

- affects a park resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park or,
- is key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- is identified in the park’s general management plan or other relevant NPS planning documents as being significant.

An impact would likely not constitute impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values, and it cannot be further mitigated. An impact that might lead to impairment could result from visitor activities; NPS administrative activities; or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park.

The NPS *Management Policies 2006* requires analysis of potential effects to determine whether or not actions would impair park resources. Park resources and values that are subject to the no-impairment standard include:

- park scenery, natural and historic objects, and wildlife and the processes and conditions that sustain them, including, to the extent present in the park, the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both during the daylight period and at night; natural soundscapes and smells; water and air resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;

- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

This document evaluates resources affected in the *White Wolf Lodge Environmental Assessment* for potential impairment due to implementing the Selected Action. These resources include geology and soils, vegetation, special status species, hydrology and water quality, archeological resources, and historic structures and cultural landscapes. Non-resource topics such as visitor experience and park and concessioner operations are not subject to the impairment determination.

Geology and Soils

The area around White Wolf Lodge is underlain almost entirely by granitic bedrock of the various plutons that comprise much of the Sierra Nevada batholith. Exposed slabs of granitic bedrock are common in the project area, culminating in the glacially sculpted domes and slopes east of the project area near Tenaya Lake and Tuolumne Meadows.

Ground shaking from earthquakes generated by seismically active fault zones poses a hazard for the White Wolf Lodge facility and its infrastructure. Although Yosemite National Park is in a zone of low seismic hazard relative to many other areas of California, large earthquakes are possible along the range-front fault system bounding the eastern Sierra Nevada adjacent to the park. Steep slopes in the vicinity of the Lodge could experience failures during such a seismic event.

Soils in the area are primarily derived from decomposition of the underlying granitic bedrock and are generally of similar chemical and mineralogical composition. Surface soils in the project area and in many other areas of Yosemite National Park consist primarily of granitic sands in various stages of decomposition. The extensive glaciation of the region has resulted in typically poorly developed topsoil and soil horizons. Soils mostly have low shrink-swell potential because of their minimal clay content, but high erosive potential because they are generally thin and sandy.

The foundation work under the Selected Action would affect shallow subsurface geology and local soils. Excavation of bedrock and soil around the structure would occur during foundation replacement and drainage improvements. The path between the Duplex Cabins and the Main Lodge (Lodge) and installation of the new restroom and storage units would result in minimal excavation, grading, and soil disturbance.

Moving, covering, trampling, and compaction of soils by equipment and workers within the construction work zone would also occur during construction; however, some of the soil that would be affected has been previously disturbed by repair, maintenance, and construction activities. Local soil compaction would decrease shallow soil permeability, reduce soil moisture content, and lessen its water storage capacity. The Selected Action would result in reduced potential erosion around buildings and improved structural resistance to seismic shaking, resulting in a site-specific, long-term, minor beneficial impact on geological hazards. Overall, there would be site-specific, long-term, minor adverse impacts on soils during rehabilitation activities, and site-specific, long term, minor adverse impacts on soils following rehabilitation because of the installation of curb aprons to direct water around the buildings. The Selected Action would not result in impairment of geology and soils in the park due to the localized and minor nature of the impacts.

Vegetation

The project area lies at 7,880 feet above mean sea level in a transitional area between the upper montane and subalpine forest zones. The project area is situated between a meadow and a forested area. Forest vegetation in the upper montane zone includes lodgepole pine, red fir, white fir, Jeffrey pine, and sugar pine. The subalpine forest tends to be dominated by lodgepole pine, with lesser amounts of red and white fir, and also includes western white pine, whitebark pine, Sierra juniper, and mountain hemlock. The forest at the White Wolf site is dominated by lodgepole pine.

Across both forest zones, dry open areas support montane chaparral, grasses, and wildflowers. Common shrubs that make up the montane chaparral include greenleaf and pinemat manzanita, buckbrush, bitter cherry, wax current and sticky current, bush chinquapin, snowberry, huckleberry oak, mountain misery, and mountain mahogany. Grasses in mountain meadows such as those at the White Wolf site include mountain muhly, bluegrass, needlegrass, and bromes. Upland wildflowers are diverse and include several species of lupine, violet, paintbrush, and groundsel; mountain pride and other penstemon; mountain pennyroyal; and many others.

Long-term, local, minor adverse impacts on vegetation from the Selected Action include selective vegetation removal, including the loss of a few trees, forbs, grasses, and other plants. Minor short-term and indirect adverse impacts also may occur due to plant trampling and soil disturbance during building repairs and drainage improvements. Implementation of construction best management practices would be employed to minimize short-term construction impacts on vegetation associated with trampling and erosion. The Selected Action would not result in the impairment of vegetation resources.

Special Status Species

The Selected Action may have an adverse effect on the Yosemite toad (listing on the Endangered Species Act becomes effective on June 30, 2014). The toad is vulnerable to impacts from construction, including direct mortality from vehicles, construction equipment, and movement of rocks and soil during construction. It also is vulnerable to alteration of habitat and disturbance that might disrupt behavior, which could adversely affect breeding. The NPS entered into formal consultation with the U.S. Fish and Wildlife Service (FWS) with regard to Yosemite toad, and the park will apply the terms, conditions, and conservation measures outlined in the June 8, 2014 Biological Opinion provided by the FWS.

The Biological Opinion states that, "Given the historic and existing level of development and human use of the 1.14 acre site, the direct and indirect effects on the Yosemite toad from the White Wolf Lodge project are anticipated to be low. By applying the terms, conditions, and conservation measures specified in the Biological Opinion and mitigation measures specified in the Environmental Assessment, the Selected Action would not result in the impairment of special status species.

Hydrology and Water Quality

Numerous rivers and creeks drain the western Sierra Nevada near the project area; the Tuolumne River to the north is the major drainage for the watershed in which the White Wolf Lodge facility is located. The Tuolumne River drains the entire northern portion of Yosemite National Park, an area of approximately 428,115 acres (669 square miles). The river flows into the Hetch Hetchy Reservoir, a major water supply for the City and County of San Francisco, before it leaves the park. In the immediate vicinity of the White Wolf Lodge facility, only a few ephemeral drainages are present. Sheet flow occurs from west to east down-gradient across the landscape and can at times be

pronounced given the abundance of bedrock exposed at the surface. Sheet flow due to precipitation and snow melt run-off is currently undermining the Lodge and cabin foundations. A 1994 inventory of water quality data performed by the NPS indicated excellent conditions in many parts of the park, but some water quality degradation was noted in areas of high visitor use.

The Selected Action would include the construction of a curb apron to direct water around the Lodge and Duplex Cabins. The curb would be designed to blend in with the natural landscape rather than appear as a typical roadside or urban curb. The White Wolf Lodge Rehabilitation would expand the facility's hardscape footprint and further limit infiltration of precipitation and down-gradient groundwater recharge. Impacts on hydrology and water quality under the Selected Action would be site-specific, short-term, minor, and adverse during rehabilitation and site-specific, long-term, minor, and adverse following rehabilitation as a result of the disruption of natural sheet flow and infiltration from the installed apron and hardscape. Because adverse impacts on hydrology and water quality would be site-specific and minor and would be mitigated during rehabilitation activities, the Selected Action would not result in impairment of these resources.

Archeological Resources

The archeological area of potential effects (APE) was defined for this project in accordance with the implementing regulations for Section 106 of the National Historic Preservation Act (NHPA). The APE for the rehabilitation project includes the White Wolf Lodge facility, including the Lodge, Duplex Cabins, twenty-four tent cabins, service structures, and a shared bath house. Archeological surveys have identified no archeological sites around the Lodge or Duplex Cabins. There is a site north of the campground and some sites south of the meadow in the White Wolf Archeological District, which was previously determined eligible for the National Register of Historic Places (NRHP) for its potential to yield important information (Criterion D). The Lodge is not within the boundary of the archaeological district.

Ground disturbing activities associated with the Selected Action do not have the potential to impact any known archeological sites within the APE. The majority of other activities associated with the project would occur in previously disturbed areas that are unlikely to exhibit evidence of archeological resources. Therefore, under Section 106 of the NHPA, there would be no archeological properties affected by the Selected Action and it would not result in impairment to archeological resources.

Historic Structures and Cultural Landscapes

The APE for the rehabilitation action includes the White Wolf Lodge facility, including the Lodge, Duplex Cabins, twenty-four tent cabins, service structures, shared bath house, and the immediate surroundings where the path, freestanding accessible restroom, and refrigerated storage unit would be constructed. This area was determined to include all historic resources that might be affected by the rehabilitation project.

The Lodge was originally constructed as a homestead sometime between 1884 and 1926. In 1926, the property was converted to a lodge, and the Duplex Cabins were constructed. The NPS purchased the property in 1951, and the White Wolf Lodge facility has been operated by the park concessioner since that time. The buildings have been altered to improve operations at the facility. During the 1968-1969 winter season the Lodge collapsed and was subsequently rebuilt to be consistent with its 1968 appearance; many of the building's materials are not original.

The Lodge has been previously determined eligible for listing in the NRHP under Criterion C as an example of the Rustic Architecture that was common to hotels within Yosemite National Park and unique to the western NPS system (State Historic Preservation Officer consensus Determination of Eligibility 2004). The period of significance dates from 1915 to 1938, and the Lodge is historically significant on the local level for its function as a lodge for motorists on the Tioga Road. At the time the NRHP eligibility of the Lodge was determined, the associated Duplex Cabins and storage building were determined to be non-contributing resources. Since then, the NPS has reassessed the Duplex Cabins and recommended that they be considered eligible for listing in the NRHP for the purpose of this undertaking. The Duplex Cabins date to the Lodge's period of significance and are consistent with the vernacular construction of the Lodge. The Duplex Cabins were constructed as tourist lodging and are representative of the transformation of White Wolf from a private homestead to a travelers' lodge. The NPS considers the White Wolf Lodge facility, including the Lodge, Duplex Cabins, tent cabins, and associated buildings and structures, as a complex that should be considered historically significant as one property rather than a collection of individual properties, but the NRHP eligibility of the entire facility has not been formally evaluated.

The Selected Action is intended to address various structural needs of the White Wolf Lodge facility, including foundation, siding, roof, and interior work on the Lodge and Duplex Cabins, while also improving compliance with the Architectural Barriers Act of 1968 and *Director's Order #42: Accessibility for Visitors with Disabilities in National Park Service Programs and Services*. The Selected Action is also consistent with the rehabilitation treatment approach as defined in the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. This treatment approach is appropriate for White Wolf resources because it provides for repair and protection of the character-defining features of the historic complex, while simultaneously allowing for necessary code, structural, and functional upgrades that will enable continued compatible use and improved visitor experience. New additions and alterations would be compatible with the historic character of the built environment to the extent practicable and will maintain significant spatial relationships in the landscape. Phase I of the Selected Action will have no adverse effect on historic structures and cultural landscape of the White Wolf Lodge facility. Therefore, Phase I of the Selected Action would not result in impairment of historic structures and the cultural landscape.

Phase 2 of the project will include work on both Duplex Cabins 1/2 and 3/4, including accessibility modifications to Duplex Cabins 1/2 and the installation of an accessible path. The second phase of the rehabilitation project cannot be completed until additional funding becomes available to determine if the entire White Wolf Lodge facility, including the campground, is eligible for listing in the NRHP as the White Wolf Historic District. Yosemite National Park would complete and submit a consensus Determination of Eligibility (DOE) to the State Historic Preservation Office for review and concurrence as part of the Section 106 compliance, which will be conducted either under a new park-wide Programmatic Agreement or under the standard review process in 36 CFR Part 800. As appropriate, separate environmental compliance will need to be prepared to address Phase 2 impacts to historic properties prior to the implementation of that phase.

SUMMARY

Based on the analysis provided in the *White Wolf Lodge Rehabilitation Environmental Assessment*, the adverse impacts and/or adverse effects would not be of a magnitude that would impair a resource or a value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Yosemite National Park,

- key to the natural or cultural integrity of Yosemite National Park or to opportunities for enjoyment of the park. or
- identified as a goal in the park's *General Management Plan* or other relevant National Park Service planning documents.

Consequently, the NPS concludes that implementation of the Selected Action would not constitute impairment of park values and resources and would not violate the National Park Service Organic Act of 1916.

In Reply Refer to:
FF08ESMF00-
2014-F-0427

June 8, 2014

Memorandum

To: Park Superintendent, Yosemite National Park, National Park Service, Yosemite, California
(Attn: Herpetologist Rob Grasso)

From: Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Biological Opinion on the White Wolf Lodge, Yosemite National Park, California and the
Threatened Yosemite Toad

This is in response to your May 22, 2014, request for formal consultation with the U. S. Fish and Wildlife Service (Service) in California. At issue are the adverse effects on the threatened Yosemite toad (*Anaxyrus canorus*). Your letter was received by the Service on May 22, 2014. This biological opinion was prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act).

This biological opinion is based on: (1) letter from the National Park Service to the Service dated May 22, 2014, and attached information (Biological Assessment); (2) *White Wolf Lodge Rehabilitation Environmental Assessment/ Assessment of Effect* dated February 2012 (Environmental Assessment) that was prepared by the National Park Service; (3) *draft Status of the Mountain Yellow-legged Frog, Yosemite Toad and Pacific Chorus Frog in the Sierra Nevada , CA* dated April 2011 prepared by the U.S. Forest Service; and (4) other information available to the Service.

We concur with your determination that the proposed project is not likely to adversely affect the endangered Sierra Nevada yellow-legged frog (*Rana sierrae*) because the nearest known population is approximately 2.5 air miles northeast of the project. The maximum overland distance from aquatic habitat this species has been recorded to move is 82 feet. Therefore, the proposed action will have insignificant or discountable effects on these animals.

Consultation History

May 13, 2014	The National Park Service and the Service discussed the proposed project in a telephone conversation.
May 22, 2014	The National Park Service sent the Service a letter and associated information requesting formal consultation on the project.
June __, 2014.	The National Park Service and the Service discussed the proposed project in a telephone conversation.

BIOLOGICAL OPINION

Description of the Proposed Action

The National Park Service is proposing to rehabilitate and operate the White Wolf Lodge, a semi-rustic facility located at about 7,880 feet in elevation off Tioga Road in Yosemite National Park. The 1.14 acre White Wolf Lodge is open during the summer season when the area is free from snow. The main lodge building contains the kitchen and dining areas, other components of the existing facility include two duplex cabins, 24 tent cabins, a shared bathhouse, several structures that are used for storage, mechanical, electrical, and plumbing service, parking areas, roads, trails, and asphalt-paved primary access road and parking area.

White Wolf Lodge is used primarily by visitors interested in hiking and other high country recreational activities. Based on the Environmental Assessment, the proposed project is unlikely to result in significant numbers of additional visitors to the facility.

The primary purpose of the rehabilitation is to repair and modify the main lodge building, duplex cabins, and immediate surroundings to meet the Yosemite National Park's universal access requirements, improve accessibility for mobility-impaired visitors and staff, construct a free-standing accessible restroom adjacent to the parking area, improve and repair flooring and foundations for the main lodge and duplex cabins, improve the main lodge kitchen service flow, and address snow load and site drainage damage and weather-related issues to structures and paths. The main lodge is located across an access road from a meadow, which contains recent occurrences of the Yosemite toad.

Some of the specific activities include in the White Wolf Lodge Project include:

1. Install a new foundation under the main lodge.
2. Replace the wood deck at the main lodge using similar materials, including a new post-and-pier foundation. A new ramp will be attached to the existing deck to provide an accessible path of travel to the front doors of the dining room.
3. Repair/replace deteriorated plumbing under the main lodge flooring.
4. Install a new grease trap.
5. Construct a new unisex, accessible restroom in a free-standing structure adjacent to the main lodge parking area.
6. Delineate and pave an accessible path of travel from the parking area to the new main lodge ramp.
7. Remove trees as necessary for building stabilization.
8. Upgrade paths of travel to the main lodge based on current code requirements.
9. Install overhead power distribution lines from the existing generator.
10. Construct a new refrigeration/freezer and storage building attached to existing kitchen. The existing refrigeration/freezer building will be removed.
11. Install an accessible pedestrian path of travel from the parking area to duplex cabins 1/2. Upgrade duplex cabins 1/2 for accessibility including footprint expansion to accommodate new accessible bathrooms and installing new doors.
12. Direct surface runoff and site drainage to avoid foundation deterioration by constructing a curb apron.

13. Construct new foundations to replace the existing stone supports.
14. Replace electrical, plumbing, and water heaters.
15. Remove trees as necessary for building stabilization.

Conservation Measures

The National Park Service proposes to avoid and minimize adverse effects to Yosemite toad by implementing the following measures:

1. The National Park Service will provide information to the contractor regarding wildlife concerns at project briefings, and provide contractor specifications and best management practices to avoid activities that are destructive to wildlife and habitats.
2. The project manager will consult with the National Park Service biologist to schedule construction activities with seasonal consideration of wildlife lifecycles to minimize impacts during sensitive.
3. The project manager will work with the contractor to limit the effects of light and noise on adjacent habitat through controls on construction equipment. No outdoor construction activities will occur between dusk and dawn to eliminate the need for outdoor construction lighting.
4. Prior to project activities, particularly any tree trimming activities, a qualified wildlife biologist will screen the area for bat roosts, nesting birds, and other features that are important to wildlife habitat. If found, the biologist will provide mitigation or direction for avoidance (e.g., flagging or avoiding the area, advise as to whether the activity must be delayed to ensure that sensitive species such as nesting migratory birds are protected and not disrupted).
5. The National Park Service will limit the operating period for equipment on roads where direct impacts to Yosemite toads are possible to daylight hours only.
6. A National Park Service biologist will conduct a once-a-month survey throughout summer 2014 (June, July, and August) before project implementation during the Yosemite toad's active season. If the biologist finds evidence of the species during the surveys, ground disturbance and construction activities will be flagged for avoidance of known toad habitat.
7. A National Park Service biologist will determine if Yosemite toads are present by conducting pre-surveys prior to beginning construction. Pre-surveys will be conducted during the toad's active season, which varies by elevation, habitat, and snow pack. Pre-surveys will include areas around foundations and equipment access points and breeding areas of nearby meadows. If detected, the biologist will flag existing burrows or openings for project avoidance.
8. A National Park Service biologist will work with the project manager to establish an appropriate date for construction to begin. To reduce road related mortality of immigrating and emigrating Yosemite toads between upland and breeding habitats, construction will not begin until two weeks after toad breeding has started in known breeding locations (meadows). If toads are detected, the National Park Service will reinitiate consultation with the

Action Area

The action area is defined in 50 CFR § 402.02, as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” For the proposed action, the action area includes all lands associated with the proposed rehabilitation and operation of the 1.14 acre White Wolf Lodge in Yosemite National Park subject to project-related rehabilitation, vehicle use, human and pet use of the facility, and associated activities.

Status of the Species and Environmental Baseline

The Yosemite toad was listed as a threatened species on April 29, 2014, under the Endangered Species Act of 1973, as amended (U.S. Fish and Wildlife Service 2014).

The Yosemite toad is a moderately sized amphibian, with the adults ranging in size from 1.2 inches to 2.8 inches from the tip of their snout to their urostyle, a bony structure at the posterior end of the spinal column (Karlstrom 1962). A thin mid-dorsal stripe is present in juveniles of both sexes. The stripe disappears or is reduced with age; this process takes place more quickly in males (Jennings and Hayes 1994). The iris of the eye is dark brown with gold iridophores (Jennings and Hayes 1994). The large paratoid glands are rounded to slightly oval in shape.

Male Yosemite toads are smaller than the females, and they have less conspicuous warts (Stebbins 1951). Differences in coloration between males and females are more pronounced in the Yosemite toad than in any other North American frog or toad (Stebbins 1951). Females have black spots or blotches edged with white or cream set against a grey, tan, or brown background color (Jennings and Hayes 1994). Males have a nearly uniform dorsal coloration of yellow-green to olive drab to darker greenish brown (Jennings and Hayes 1994).

The Yosemite toad was originally described as *Bufo canorus* by Camp (1916), who gave it the common name of Yosemite Park toad. Grinnell and Storer (1924) referred to it as the Yosemite toad when the species' range had been found to extend beyond the boundaries of Yosemite National Park. Subsequently, Frost *et al.* (2006) divided the paraphyletic genus *Bufo* into three separate genera, assigning the North American toads, including the Yosemite toad, to the genus *Anaxyrus*.

Feder (1977) found Yosemite toads to be the most genetically distinct member of the *boreas* group based on samples from a limited geographic range. However, Yosemite toads hybridize with western toads in the northern part of their range (Karlstrom 1962; Morton and Sokolski 1978). Shaffer *et al.* (2000) analysed a segment of mitochondrial DNA from 372 individuals from Yosemite National Park, and Sequoia-Kings Canyon National Parks. They concluded there are significant genetic differences in Yosemite toads between the two National Parks. The genetic divergence in animals from regionally proximate populations of this species was high, implying low rates of genetic exchange.

The Yosemite toad in the Sierra Nevada is restricted to the Sierra Nevada in California from the Blue Lakes region north of Ebbetts Pass in Alpine County to just south of Kaiser Pass in the Evolution Lake/Darwin Canyon area in Fresno County (Green *et al.* 2014; Jennings and Hayes 1994). Yosemite toad historically inhabited elevations ranging from 4,790 to 11,910 feet (Stebbins 2003; Stephens 2001).

The current range of the Yosemite toad in terms of overall geographic extent, remains largely similar to its historical range (USFS *et al.* 2009). However, within this area, its habitats have been degraded and may be decreasing in size as a result of conifer encroachment and livestock grazing. The vast majority of the Yosemite toad's range is within Federal land.

Baseline data on the number and size of Yosemite toad populations are limited, and historic records are largely based on accounts from field notes, or pieced together through museum collections. Recent inventories have found Yosemite toads at 469 localities collectively on six National Forests indicating that the distribution of the species is still extant throughout its range (USFS *et al.* 2009). However, these inventories were conducted to determine presence or absence of this species and not measure the number of individuals in the populations. Moreover, single-visit surveys of toads are unreliable as indices of abundance because timing is so critical to the presence of detectable life stages (USFS *et al.* 2009; Liang 2010). Given these limitations, definitive statements about population trends, abundance, or extirpation rates currently are not possible.

Yosemite toads inhabit wet meadow habitats and lake shores surrounded by lodgepole or whitebark pines (Camp 1916). They are most often found in areas with thick meadow vegetation or patches of low willows (Mullally 1953). Liang (2010) observed Yosemite toads most frequently associated with, in order of preference: wet meadows, alpine-dwarf scrub, red fir, water, lodgepole pine, and subalpine conifer habitats.

Yosemite toads are found as often at large as at small sites (Liang 2010), indicating that this species is capable of successfully utilizing small habitat patches. Liang (2010) found that population persistence was greater at higher elevations, with an affinity for relatively flat sites with a southwesterly aspect. These areas receive higher solar radiation and are capable of sustaining hydric, seasonally ponded, and mesic breeding and rearing habitat. The Yosemite toad is more common in areas with less variation in mean annual temperature, or more temperate sites with less climate variation (Liang 2010).

Adults likely have a long life span, and this allows their persistence in variable conditions and marginal habitats where only periodic good years allow high reproductive success (USFS *et al.* 2009). Females have been documented to reach 15 years of age, and males as many as 12 years (Kagarise Sherman and Morton 1993); however the average longevity of the Yosemite toad in the wild is not known. Jennings and Hayes (1994) indicated that females begin breeding at ages four to six years, while males begin breeding at ages three to five years. Adults tend to breed at a single site and appear to have high site-fidelity (Liang 2010), although individuals will move between breeding areas (Liang 2010).

Males exit burrows first, and spend more time in breeding pools than females, who do not breed every year (Kagarise Sherman and Morton, 1993, p. 196). Higher lipid storage in females, which enhances overwinter survival, also may precludes the energetic expense of breeding every year (Morton 1981). The Yosemite toad is a prolific breeder, laying many eggs immediately at snowmelt. This is accomplished in a short period of time, coinciding with water levels in meadow habitats and ephemeral pools they use for breeding. Female toads lay approximately 700–2,000 eggs in two strings (one from each ovary) (USFS *et al.* 2009). Females may split their egg clutches within the same pool, or even between different pools, and eggs may be communally laid with other toads (USFS *et al.* 2009).

Eggs hatch within 3–15 days, depending on ambient water temperatures (Kagarise Sherman 1980 Jennings and Hayes 1994). Tadpoles typically metamorphose around 40–50 days after fertilization, and are not known to overwinter (Jennings and Hayes 1994). Tadpoles have also been observed in shallow ponds and shallow areas of lakes (Mullally 1953). Tadpoles are black in color, tend to congregate together (Brattstrom 1962) in warm shallow waters during the day (Cunningham 1963), and then retreat to deeper waters at night (Mullally 1953). The completion of metamorphosis takes approximately 5–7 weeks after eggs are laid (USFS *et al.* 2009).

Adult Yosemite toads are most often observed near water, but only occasionally in water (Mullally and Cunningham 1956b). Moist upland areas such as seeps and springheads are important summer non-breeding habitats for adult toads (Martin 2008). The majority of their life is spent in the upland habitats proximate to their breeding meadows. They use rodent burrows for overwintering and probably for temporary refuge during the summer (Jennings and Hayes 1994), and they spend most of their time in burrows (Liang 2010). They also use spaces under surface objects, including logs and rocks, for temporary refuge (Stebbins 1951; Karlstrom 1962). Males and females also likely inhabit different areas and habitats when not breeding, and females tend to move farther from breeding ponds than males (USFS *et al.* 2009).

Yosemite toads extensively utilize upland habitat and individuals have been recorded moving 0.78 mile from their breeding meadows, with an average movement of 902 feet (Liang 2010). The average distance traveled by females is twice as far as males, and home ranges for females are 1.5 times greater than those for males (Liang 2010). Movement into the upland terrestrial environment following breeding does not follow a predictable path, and toads tend to traverse longer distances at night, perhaps to minimize evaporative water loss (Liang 2010).

The only long-term, site-specific population study for Yosemite toads documented a dramatic decline over 2 decades of monitoring. Kagarise Sherman and Morton (1993) studied the species at Tioga Pass Meadow from 1971 through 1991, with the most intensive monitoring through 1982. They documented a decline in the average number of males entering the breeding pools from 258 to 28 during the mid-1970s through 1982. During the same time period, the number of females varied between 45 and 100, but there was no apparent trend in number observed. During the 1980s, it appeared that both males and females continued to decline, and breeding activity became sporadic. By 1991, they found only one male and two egg masses. A researchers similar population decline was recorded in local nonbreeding habitat.

Kagarise Sherman and Morton (1993) also conducted occasional surveys of six other populations in the eastern Sierra Nevada. Five of these populations showed long-term declines that were evident beginning between 1978 through 1981, while the sixth population held relatively steady until the final survey in 1990, at which time it dropped. In 1991, Karlstrom revisited the site where he had studied a breeding population of Yosemite toads from 1954 to 1958 just south of Tioga Pass Meadow within Yosemite National Park, and found no evidence of toads or signs of breeding (Kagarise Sherman and Morton 1993).

The Forest Service conducted a comprehensive study of the Yosemite toad's population status and trends (Brown *et al.* 2011). It was designed to provide statistical comparisons across 5-year monitoring cycles with at 134 watersheds (Brown *et al.* 2011). Trends could be assessed for the entire range of the species, rather than year-to-year comparisons at limited survey sites. The results of the study indicated the Yosemite toad has declined from historical levels, with the animal occurring in only 12 percent of watersheds where they existed prior to 1990. Breeding was found to be occurring in an estimated 22 percent of watersheds within their current estimated range. In addition, breeding was occurring in 81 percent of the watersheds that were occupied from 1990–2001, suggesting that the number of locations where breeding occurs has continued to decline (Brown *et al.* 2011). Moreover, overall abundances in the intensively monitored watersheds were very low with fewer than 20 males per meadow per year, relative to other historically reported abundances of the species (Brown *et al.* 2011). Brown *et al.* (2011) suggest that populations currently are now very small across the range of the species. Only 18 percent of occupied survey watersheds rangewide had “large” populations over the past decade - more than 1,000 tadpoles or 100 of any other lifestage detected at the time of survey.

High meadow habitat quality in the western United States, and specifically the Sierra Nevada, has been degraded by various stressors over the last century (Halpern *et al.* 2010; Vale 1985; Ratliff 1985). These various stressors have contributed to erosion and stream incision, leading to meadow dewatering and encroachment by invasive vegetation (Menke *et al.* 1996; Linquist and Wilcox 2000). The legacy of these impacts remains extant to this day in the ecosystems of the high Sierra Nevada (Vankat and Major 1978). Given the reliance of the Yosemite toad on these high meadow habitats for breeding, and early life history stage and adult survival, the various stressors likely have had an indirect effect on the viability of Yosemite toad populations via degradation of their habitat. Loss of connectivity of habitats leads to further isolation and population fragmentation.

Since high meadows in the Sierra Nevada are dependent on their hydrologic setting, most meadow degradation is due fundamentally to hydrologic alterations. There are many drivers of hydrologic alterations in meadow ecosystems. Historic water development and ongoing management has physically changed the underlying hydrologic landscape. Diversion and irrigation ditches formed a vast network that altered local and regional stream hydrology. Timber harvest and associated road construction further affected erosion and sediment delivery patterns in rivers and meadow streams. Changes in the pre-settlement fire regime, fire suppression, and an increase in the frequency of large wildfires due to excessive fuel buildup, introduced additional disturbance pressure to the meadows of the Sierra Nevada. Many meadows now have downcut stream courses, compacted soils, altered plant community compositions, and diminished wildlife and aquatic habitat. Meadow dewatering by these changes within the watershed has facilitated these shifts in the vegetative community. Finally, climate variability has also played a role in the conifer encroachment.

Grazing by livestock in Sierra Nevada meadows and the rivers, streams, and adjacent upland areas that directly affect them, began in the mid-1700s with the European settlement of California (Menke *et al.* 1996). Following the gold rush of the mid-1800s, grazing increased to a level exceeding the carrying capacity of the available range, causing significant impacts to meadow and riparian ecosystems (Meehan and Platts 1978; Menke *et al.* 1996). By the turn of the 20th century, high Sierra Nevada meadows were converted to summer rangelands for grazing cattle, sheep, horses, goats, and pigs, although the alpine areas were mainly grazed by sheep (Beesley 1996; Menke *et al.* 1996). Stocking rates of both cattle and sheep in Sierra meadows in the late 19th and early 20th centuries were very heavy, and grazing severely degraded many meadows (Ratliff 1985; Menke *et al.* 1996). Grazing impacts occurred rangewide, as cattle and sheep were driven virtually everywhere in the Sierra Nevada where forage was available (Kinney 1996; Menke *et al.* 1996).

Although definitive data is lacking to assess the link between Yosemite toad population dynamics and habitat degradation by livestock grazing activity, in light of the documented impacts to meadow habitats, including effects on local hydrology, from grazing activity in general, this threat is prevalent with moderate impacts to the animal and a potential limiting factor in its recovery. In addition, given the potential for negative impacts from heavy use, and the vulnerability of toad habitat should grazing management practices change with new management plans, we expect this threat to continue into the future.

Evidence indicates that fire plays a significant role in the evolution and maintenance of meadows of the Sierra Nevada. Under natural conditions, conifers are excluded from meadows by fire and saturated soils. Small fires thin and/or destroy encroaching conifers, while large fires are believed to determine the meadow-forest boundary (Vankat and Major 1978; Parsons and DeBenedetti 1979). Fire is thought to be important in maintaining open aquatic and riparian habitats for amphibians in some systems (Russel *et al.* 1999), and fire suppression may have thereby contributed to conifer encroachment on meadows (Chang 1996; National Park Service 2002).

Recreational activities take place throughout the Sierra Nevada, and they can have significant negative impacts on wildlife and their habitats (U.S. Department of Agriculture 2001a). Recreation can cause considerable impact to western U.S. Wilderness Areas and National Parks even with light use, with recovery only occurring after considerable periods of non-use (U.S. Forest Service *et al.* 2009). Heavy foot traffic in riparian areas tramples vegetation, compacts soils, and can physically damage streambanks. Trails utilized by human hikers, horses, bicycles, or off-highway motor vehicles, compact the soil, displace vegetation, and increase erosion, thereby potentially lowering the water table (Kondolph *et al.* 1996).

Although not all vectors have been confirmed in the Sierra Nevada, introduced fishes, humans, pets, livestock, packstock, vehicles, and wild animals may all act to facilitate disease transmission between amphibian populations. Infection of both fish and amphibians by a common disease has been documented with viral (Mao *et al.* 1999) and fungal pathogens in the western United States (Blaustein *et al.* 1994b). Mass die-offs of amphibians in the western United States and around the world have been attributed to chytrid fungal infections of metamorphs and adults (Carey *et al.* 1999), *Saprolegnia* fungal infections of eggs (Blaustein *et al.* 1994b), ranavirus infections, and bacterial infections (Carey *et al.* 1999).

Die-offs in Yosemite toad populations have been documented in the literature, and an interaction with diseases in these events has been confirmed. However, no single cause has been validated by field studies. Tissue samples from dead or dying adult Yosemite toads and healthy tadpoles were collected during a die-off at Tioga Pass Meadow and Saddlebag Lake and analyzed for disease (Green and Kagarise Sherman 2001). Six infections were found in the adults, including infection with Bd, bacillary bacterial septicemia, a fungus (*Dermosporidium*), parasitic cnidarians (myxozoa spp.), parasitic roundworms (*Rhabdis*), and several species of parasitic trematode flatworms. Despite positive detections, no single infectious disease was found in more than 25 percent of individuals, and some dead toads showed no signs of infection to explain their death. Further, no evidence of infection was found in tadpoles. A meta-analysis of red-leg disease also revealed that the disease is a secondary infection that may be associated with a suite of different pathogens, and so actual causes of decline in these instances were ambiguous (Kagarise Sherman and Morton 1993). The die-off likely was caused by suppression of the immune system caused by an undiagnosed viral infection or chemical contamination that made the toads susceptible to the variety of diagnosed infections.

Until recently, the contribution of Bd infection to Yosemite toad population declines was relatively unknown. Although the toad is hypothetically susceptible due to co-occurrence with the mountain yellow-legged frog, it is suspected that the spread and growth of Bd in the warmer pool habitats, occupied for a much shorter time relative to the frog, renders individuals less prone to epidemic outbreaks (USFS *et al.* 2009). Fellers *et al.* (2011) documented the occurrence of Bd infection in Yosemite National Park toads over at least a couple of decades, and they note population persistence in spite of the continued presence of the pathogen. In a survey of 196 museum specimens, Dodge and Vredenburg (2012) report the first presence of Bd infection in Yosemite toads beginning in 1961, with the pathogen becoming highly prevalent during the recorded declines of the late 1970s, before it peaked in the 1990s at 85 percent positive incidence. In live specimen sampling, Dodge and Vredenburg (2012) collected 1,266 swabs of Yosemite toads between 2006 and 2011, and found Bd infection intensities at 17–26 percent, with juvenile toads most affected. The results from these studies support the hypothesis that Bd infection and chytridiomycosis have played an important role in Yosemite toad population dynamics over the period of their recent recorded decline.

Trampling and collapse of rodent burrows by hikers, livestock, pack animals, pets, or vehicles could lead to direct injury or death of the Yosemite toad. Recreational activity may also disturb toads and disrupt their behavior (Karlstrom 1962). Recreational anglers may be a source of introduced pathogens and parasites, and they have been observed using toads and tadpoles as bait (USFS *et al.* 2009). However, Kagarise Sherman and Morton (1993) did not find a relationship between the distance from the nearest road and the declines in their study populations, suggesting that human activity was not the cause of decline in that situation. Recreational activity may be of conservation concern, and this may increase with greater activity in mountain meadows.

According to the Biological Assessment, field surveys near the project site detected the Yosemite toads as well as tadpoles in 2012, 2013, and 2014. Individuals of this species move between high meadows and upland habitat throughout the summer months before and after they breed. The Biological Assessment notes that Yosemite toads many crossing roads in the White Wolf Lodge area.

The Yosemite toad likely occurs within the action area as demonstrated by: (1) historic and recent observations of the species within the 0.78 mile dispersal distance of the species (National Park Service 2014); (2) the biology and ecology of the animal, especially the ability of individuals to move distances and their ability to spend the dry months of the year in upland habitats with suitable environmental conditions; and (3) the action area contains physical features that provide refuge, forage, and dispersal habitat for the amphibian.

Effects of the Proposed Action

There is the potential for the project to adversely affect individual Yosemite toads as well as its upland habitat. However, there currently are a number of buildings, roads, trails, as well as regular human use and vehicle traffic on the 1.14 acre White Wolf Lodge site. According to the Environmental Assessment, the main lodge was constructed by a homesteader in 1884, and it has been operated as the White Wolf Lodge by a park concession since 1951. Given the historic and existing level of development and human use of the 1.14 acre site, the direct and indirect effects on the Yosemite toad from the White Wolf Lodge project are anticipated to be low.

The rehabilitation and operation of the proposed project may result in the loss, damage, or destruction of rodent burrows and other habitats used by the Yosemite toad for estivation or hibernation, and the reduction of the prey base for this species. Individual animals may be crushed, buried, or otherwise injured or killed during rehabilitation. Disturbance caused by construction activities may cause individuals to disperse into areas containing unsuitable habitat, increasing the risk of predation or other sources of mortality. Harassment, injury, or mortality to the animal may result from encounters with vehicles, equipment, workers, visitors, pets, noise, and vibration.

The Biological Assessment states that adverse effects to the Yosemite toad resulting from vehicles involved with the rehabilitation will be minimized by delaying the work until their breeding is nearly complete. The National Park Service will minimize disturbance from the rehabilitation around the Main Lodge and cabins, as well as ground disturbing activities accessing these structures by conducting pre-work surveys to identify and flag areas containing suitable habitat for the species. All work will take place within the existing footprint.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. We are not aware of any future non-Federal actions.

The average temperature in the United States has risen by approximately 1.5° Fahrenheit since 1895; more than 80% of this increase has occurred since 1980 (Adger *et al* 2007; Schiermier 2012; Tollefson and Monarstersky 2012; Allen *et al.* 2013; California Climate Action Team 2013; Kadir *et al.* 2013; U.S. Global Research Program 2013; Hurteau *et al.* 2014; Melillo *et al.* 2014). There is an international scientific consensus that most of the warming observed is the result of human activities (Adger *et al.* 2007; U.S. Global Change Research Program 2013; Merillo *et al.* 2014), and that it is due to increasing concentrations of greenhouse gases, including carbon dioxide, methane, and nitrous oxide, in the global atmosphere from burning fossil fuels and other human activities (Monastersky 2013; Adger *et al.* 2007). The temperatures in the United States will continue to rise, with the next

few decades projected to see another 2°F to 4°F of warming in most areas. The amount of warming by the end of this Century is projected to closely correspond to the cumulative global emissions of greenhouse gases up to that time, ranging from 3°F to 10°F depending upon the level of emissions after the year 2050 (U.S. Global Change Research Program 2013). There are multiple mechanisms by which global warming may push already imperiled species closer or over the edge of extinction. Global warming increases the frequency of extreme weather events, such as heat waves, droughts, and storms (California Climate Action Team 2006; U.S. Global Change Research Program 2013). As the global climate continues to rise, terrestrial habitats are moving northward and upward, others will be eliminated, but in the near future, range contractions or extinctions of some species are more likely than simple northward or upslope shifts. Since climate change threatens to disrupt annual weather patterns, it will result in a loss of habitats, food, or increased numbers of predators, parasites, and diseases.

For the Sierra Nevada ecoregion, climate models predict that mean annual temperatures will increase by 3.2 to 4.3 °F by 2070, including warmer winters with earlier spring snowmelt and higher summer temperatures (Point Reyes Bird Observatory 2011). Additionally, mean annual rainfall is projected to decrease from the current average by some 3.6–13.3 inches by 2070 (Point Reyes Bird Observatory 2011). However, projections have high uncertainty and one study predicts the opposite effect (Point Reyes Bird Observatory 2011). Snowpack is, by all projections, going to decrease dramatically following the temperature rise and increase in precipitation falling as rain (Point Reyes Bird Observatory 2011). Higher winter streamflows, earlier runoff, and reduced spring and summer streamflows are projected, with increasing severity in the Sierra Nevada (Point Reyes Bird Observatory 2011). Snow-dominated elevations from 6,560–9,190 feet will be the most sensitive to temperature increases (Point Reyes Bird Observatory 2011). Meadows fed by snowmelt may dry out or be more ephemeral during the non-winter months (Point Reyes Bird Observatory 2011). This pattern could influence ground water transport, persistence of surface water, and springs may be similarly depleted, leading to lower water levels in available habitat for the early life history stages and breeding for the Yosemite toad. Therefore, ongoing global climate change is highly likely to imperil the Yosemite toad, and the resources, including the aquatic areas, necessary for its survival.

Conclusion

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the National Park Service so that they become binding conditions of any grant, contract, or permit issued by the National Park Service as appropriate, in order for the exemption in section 7(o)(2) to apply. The National Park Service has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the National Park Service: (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, contract, or grant document; and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the National Park Service must report the progress of the action and its impact on the Yosemite toad to the Service as specified in the incidental take statement (50 CFR §402.14(i)(3)).

Amount or Extent of Take

The Service anticipates that incidental take of the Yosemite toad will be difficult to detect due to their cryptic appearance and behavior; subadults and adults may be located a distance from the wet meadows where they breed and the early life history stages develop; and the finding of an injured or dead individual is unlikely because of their relatively small body size. The conservation measures described above in the Description of the Proposed Action will substantially reduce, but do not eliminate, the potential for incidental take of the Yosemite toad. Adverse effects to this animal also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, or additional environmental disturbances. The Service, therefore, anticipates incidental take will result from the proposed project. Upon implementation of reasonable and prudent measure, take of the Yosemite toad in the form of capture, harm, and harassment of all subadults and/or adults inhabiting or utilizing 1.41 acres, or the injury, or death of one (1) subadult/adult for the duration of the project, including the rehabilitation and operation of the White Wolf Lodge, will become exempt from the prohibitions described under section 9 of the Act. Therefore, reinitiation will be triggered if the amount of incidental take is exceeded by the National Park Service.

Effect of the Take

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Reasonable and Prudent Measure

1. The National Park Service shall minimize adverse effects of the White Wolf Lodge Project on the Yosemite toad.

Term and Condition

To be exempt from the prohibitions of section 9 of the Act, the National Park Service must comply with the following terms and conditions, which implements the reasonable and prudent measure described above. These terms and conditions are non-discretionary.

1. The National Park Service shall implement the conservation measures described within the biological assessment and the project description of this biological opinion.
2. If appropriate, the National Park Service shall move Yosemite toads from within the 1.14 acre White Wolf Lodge site to a safe location

- a. Each Yosemite toad encounter shall be treated on a case-by-case, but the general procedure is as follows: (1) leave the non-injured Yosemite toad alone if it is not in danger; or (2) move the Yosemite toad to a nearby safe location if it is in danger. These two actions are further described below.
 - i. When a Yosemite toad is encountered within the 1.14 acre White Wolf Lodge site, the first priority is to stop all activities in the surrounding area that have the potential to result in the harassment, injury, or death of the individual. Then, the situation shall be assessed by a National Park biologist in order to select a course of action that will minimize adverse effects to the individual.
 - ii. Avoidance is the preferred option if a Yosemite toad is not moving and it is not moving or using a burrow or other refugia. A National Park Service biologist shall inspect the area and evaluate the necessity of fencing, signage, or other measures to protect the animal.
 - iii. If appropriate, the Yosemite toad shall be allowed to move out of the hazardous situation on its own volition to a safe location. The animal may not be picked up and moved based on it not moving fast enough or it is an inconvenience for activities associated with rehabilitation or operation. This only applies to situations where a Yosemite toad is encountered on the move during conditions that make their upland travel feasible. This does not apply to Yosemite toads that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species should the animal move outside the immediate area.
 - iv. The Yosemite toad shall be captured and moved by hand only when there is no other option to prevent harassment, injury, or death. If appropriate habitat is located immediately adjacent to the capture location then the preferred option is relocation to that site. The Yosemite toad should not be moved outside of the radius it would have traveled on its own. Under no circumstances shall a Yosemite toad be relocated to non-National Park Service property without the landowner's written permission.
 - (a) Only National Park Service biologists may capture Yosemite toads. Nets or bare hands may be used to capture the animals. Soaps, oils, creams, lotions, repellents, or solvents of any sort cannot be used on hands within two hours before and during periods when the biologist is capturing and relocating the Yosemite toad. If the animal is held for any length of time in captivity, they shall be kept in a cool, dark, moist environment with proper airflow, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting shall not contain any standing water, or objects or chemicals that may injury or kill a Yosemite toad.

The reasonable and prudent measure, with its implementing terms and conditions, is designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take described for the Yosemite toad in the Amount or Extent of Take section is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The National Park Service must provide an explanation of the causes of the taking as soon as possible and review with the Service the need for possible modification of the reasonable and prudent measure.

Reporting Requirements

Injured Yosemite toads shall be cared for by a licensed veterinarian or other qualified person such as the National Park Service biologist; dead individuals must be placed in a sealed plastic bag with the date, time, location of discovery, and the name of the person who found the animal; the carcass should be kept in a freezer; and held in a secure location. The Service must be notified within one (1) working day of the discovery of death or injury to a Yosemite toad that occurs due to project related activities or is observed at the project site. Notification will include the date, time, and location of the incident or of the finding of a dead or injured animal clearly indicated on a U.S. Geological Survey 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. The Service contact person is the Resident Agent-in-Charge of the Service's Law Enforcement Division at (916) 569-8444. The Chief of the Coast-Forest Division at the Sacramento Fish and Wildlife Office also should be notified at (916) 414-6600.

The National Park Service shall submit a compliance report prepared by the Park biologist to the Sacramento Fish and Wildlife Office within one hundred and twenty (120) calendar following the completion of the rehabilitation or within sixty (60) calendar days of any break in rehabilitation activity lasting more than thirty (30) calendar days. This report shall detail (i) dates that rehabilitation occurred; (ii) pertinent information concerning the success of the project in meeting the conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on the Yosemite toad, if any; (v) occurrences of incidental take; (vi) documentation of employee environmental education; and (vii) other pertinent information. The reports shall be addressed to the Chief of the Coast-Forest Division (Attention: Chris Nagano) at the Sacramento Fish and Wildlife Office.

Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and databases. The Service has the following recommendations:

1. The National Park Service should continue their efforts to eliminate trout from within the ranges of the Yosemite toad, Northern Distinct Population Segment of the mountain yellow-legged frog, and the Sierra Nevada yellow-legged frog.

2. The National Park Service should assist the Service in implementing the Conservation Strategy, and when completed, the final recovery plan for the Yosemite toad, Northern Distinct Population Segment of the mountain yellow-legged frog, and the Sierra Nevada yellow-legged frog.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any of the conservation recommendations.

REINITIATION – CLOSING NOTICE

This concludes formal consultation on the effects of the White Wolf Lodge Project on the Yosemite toad. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have questions about this biological opinion, please contact Chris Nagano, Senior Scientist in our Endangered Species Program at the letterhead address, email (Chris_Nagano@fws.gov), or at telephone (916) 414-6600.

cc: Danny Boiano, Sequoia-Kings Canyon National Park, Three Rivers, California

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