APPENDIX B

CUMULATIVE ACTIONS

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The Council on Environmental Quality (CEQ) describes a cumulative impact as follows (Regulation 1508.7):

A "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The cumulative projects addressed in this analysis include past and present actions, as well as any planning or development activity currently being implemented or planned for implementation in the reasonably foreseeable future. Cumulative actions are evaluated in conjunction with the impacts of an alternative to determine if they have any additive impacts on a particular resource. The following are considered in the analysis of cumulative impact projects for this project.

PAST

Ahwahnee Fire and Life Safety Improvements Project

The Fire and Life-Safety Improvements Project for The Ahwahnee involved the installation of automatic fire sprinklers, fire/smoke detectors, and fire alarm systems throughout the National Historic Landmark building. The installation of the fire and life-safety equipment affected every room of the building and involved varying amounts of disruption to the historic finishes. Once the installation was completed, all disrupted finishes were restored with in-kind repairs and finishes. Improvements to fire-safe the 2nd floor corridor and to widen the existing exterior south stair from the 2nd floor to ground level were completed to meet code.

Cascades Diversion Dam Removal

The Cascades Diversion Dam was located on the main stem of the Merced River at the far west end of Yosemite Valley. The dam was a timber "crib" structure with associated concrete abutments. Removing the dam was part of the overall intent of the Merced River Plan and Yosemite Valley Plan to restore free-flowing conditions to the Merced Wild and Scenic River. In its deteriorated condition, the dam presented a significant public health and safety hazard due to the potential for uncontrolled collapse. Removal of this structure and related facilities was completed in 2004.

Cascades Housing Removal

The Cascades area houses became cost prohibitive to maintain because of substandard construction and inadequate site development (drainage) and non-compliance to construction codes. The houses

contained asbestos and lead paint concerns; abatement costs would have been prohibitive. Removal of these structures was deemed compatible with park values, and the General Management Plan targeted these structures for removal. While the houses were nominated for the Historic Register, they were approved for removal. The removal included the complete removal of structures and foundations, while significant historical components were saved. Five housing units were removed and area vegetation was restored. The project was completed in 2004.

Cook's Meadow Ecological Restoration

This project is restoring a dynamic and diverse wetland ecosystem. The Cook's Meadow restoration project involves the following actions:

- Filling four drainage ditches created by early Euro-American settlers
- Removing a raised, abandoned roadbed and a trail that bisected the meadow
- Reconstructing the trail on an elevated boardwalk that now allows water to flow freely and reduces foot traffic on sensitive meadow plants
- Installing culverts under Sentinel Road to direct runoff into the meadow and restore the natural flow of water from the Merced River during seasonal periods of high water
- Reducing non-native plant species encroaching on native species by using manual, mechanical, and chemical control methods. This project was completed at the end of 2005, and ongoing monitoring will continue.

Curry Village Employee Housing

This project includes the design and construction of new employee housing and related facilities to accommodate approximately 217 concessionaire employees in the area west of Curry Village in Yosemite Valley. This housing will replace concessionaire housing lost in the January 1997 flood. The employee housing units have been designed in accordance with the character of the area, with particular focus on the Curry Village Historic District. The scope of this housing project includes providing parking and access, an employee wellness center, concessionaire housing, management offices, maintenance facilities, postal facilities, and housing related storage. The compliance for this project was completed in 2004, and construction was completed in 2007.

Curry Village Huff House Temporary Housing

This temporary solution was developed in consultation with litigants as part of a settlement agreement concerning the Merced Wild and Scenic River Comprehensive Management Plan. This action provided temporary lodging for 102 employees, and was needed to help meet immediate short-term housing needs for the park concessioner until permanent employee housing is available. The Huff House housing area includes the historic Huff House, and is located within the Yosemite Valley Historic District and the Camp Curry Historic District cultural landscape. This project installed 51 temporary, portable kiosk-like hard-sided cabins without baths (WOBs) and/or canvas tent cabins, and 2 modular shared facilities at infill and peripheral locations at the existing Huff House temporary

employee housing area at Curry Village in Yosemite Valley. The 21 temporary structures placed in infill locations were tent cabins salvaged from the closed areas of Curry Village. Installation of 30 additional temporary tent cabins or WOBs along the northern edge of the Huff House housing area, plus installation of the two shared modular facilities, and relocation of one WOB to an infill location were also accomplished under this project. This project was completed in fall 2009.

Curry Village Registration Building, Guest Lounge and Amphitheater Rehabilitation

This project included the rehabilitation of the Curry Village registration, lounge, and amphitheater structures. The lounge project included the complete rehabilitation of the building's architectural, structural, mechanical, and electrical systems. Included in the project were repairs and improvements to the outdoor amphitheater on the south end of the lounge building. The registration building project included the complete rehabilitation of the building's architectural, structural, mechanical, and electrical systems. All rehabilitation work was constructed in compliance with the Secretary of the Interior's Standards for Rehabilitation.

This project corrected the structural deficiencies of these buildings by rehabilitating building foundations and roof trusses to meet current loads. The project provided an adequate HVAC system, electrical wiring that meets the current National Electric Code, and a fire alarm and suppression system for each building. The building's exteriors were restored, including siding, windows, doors and all building trim to a level where cyclic maintenance can be performed without significant restoration. Federal accessibility standards were incorporated into the project.

Curry Village Temporary Guest Showerhouse

This project installed a temporary guest shower house in the Curry Village area to help offset the loss of guest bathroom facilities resulting from rockfall events that occurred fall 2008. The guest shower house consists of two 40' modular units which house men's, women's, and two accessible shower and restroom services. The two modular buildings are connected by a shared pitched roof over an 8' wide center breezeway which allows access to the facilities in inclement weather with minimal snow removal needed. The building in its entirety is approximately 40' long, 32' wide and 15' tall at the center roof line. This project includes the installation of a covered accessibility compliant ramp at the western side of the structure, and stairs at the eastern side of the building. Additionally, this project proposed to improve the adjacent paved pathway for improved accessibility from the Curry Village parking area. This project was completed in summer 2009.

El Portal Road Improvement Project

Significant damage occurred during the 1997 flood, necessitating an almost complete reconstruction of the El Portal Road. Since then, the NPS has rebuilt the westernmost 6.5 miles of the road — referred to as Segments A, B, and C — but prior to completion, reconstruction of the final one-mile segment of the project, referred to as Segment D, was halted as a result of a successful legal challenge. The court

decision directed the NPS to prepare a comprehensive management plan for the Merced Wild and Scenic River before completing road repairs.

Completion: A Finding of No Significant Impact (FONSI) was signed by the Regional Director in July, 2007. Actions were completed in 2008.

Fern Springs Restoration

Ecological restoration, split rail fencing, and an interpretive wayside exhibit comprised Phases 1 and 2 of this project. Actions were completed in 2007.

2004 Fire Management Plan/EIS

This plan guides a complex fire management program, including wildland fire suppression, wildland fire used to achieve natural and cultural resource benefits, fire prevention, prescribed fire, fire ecology research, and the use of mechanical methods to reduce and thin vegetation in and around communities. The plan calls for the use of prescribed fire and passive fuel reduction techniques to achieve protection and ecosystem restoration goals. More aggressive treatment strategies are prescribed in developed areas, if needed. Managed wildland fires (lightning-ignited fires) are allowed to burn where practicable, if specific conditions are present.

Happy Isles Dam Removal

The Happy Isles Dam impoundment was located at the eastern end of Yosemite Valley, had been abandoned since the mid-1980s. The remaining infrastructure consisted of a low rock and concrete dam, two steel-reinforced concrete and iron diversion gates, numerous pipes above and below ground near the dam, and an 8-foot by 12-foot granite powerhouse foundation. The dam and diversion gates cause a large eddy and scour pool (100 feet wide by 15 to 20 feet deep) directly upstream of the obstruction, which dramatically alters local hydrology, water chemistry, and ecology. The project consisted of removing Happy Isles dam and associated infrastructure and revegetating the riverbanks to prevent post-project bank erosion.

This project was completed in 2006.

Happy Isles Fen Habitat Restoration Project

The Happy Isles Fen is a 2-acre wetland immediately west of the Nature Center at Happy Isles in east Yosemite Valley. In 1928, the National Park Service filled in about 3 additional acres of the fen to create a parking lot. The asphalt parking lot was removed in 1970, though imported fill remained. The area affected by parking lot construction was restored to wetland conditions by removing imported fill and associated upland vegetation and revegetating with native wetland plants. This project was completed in the fall of 2003.

Happy Isles Gauging Station Bridge Removal

The Happy Isles Gauging Station Bridge spanned the Merced River in the east end of Yosemite Valley. The bridge was badly damaged during the January 1997 flood and was deemed unsafe by representatives of the Federal Highway Administration. The bridge began to show signs of immediate failure in 2000 when a large sinkhole appeared on the west abutment. Due to the threat to public health and safety, the bridge was removed in the fall of 2001, thereby improving free-flowing conditions of the Merced River. The east abutment was retained to protect the operation stream flow gauge.

The bridge was removed in 2001.

Happy Isles to Vernal Fall Trail Reconstruction

This project proposes to reconstruct 5,400 linear feet of the Vernal Fall Trail from Happy Isles to the base of the Mist Trail stairs. Actions include constructing an average tread width of seven feet, rebuilding trail walls, redistributing old pavement as a sub-base, and resurfacing. On steeper sections of the trail, improved traction will be provided for pedestrians. A functioning drainage system will be established in the trail corridor by paving water breaks and constructing rock drainages to channel water away from the trail.

Lower Yosemite Fall Project

The Lower Yosemite Fall area is the most highly visited natural feature in Yosemite National Park. The plan rehabilitated and reconstructed the existing system of trails and bridges, relocated the restroom, and removed the existing parking area in the Lower Yosemite Fall area.

Completion: A Finding of No Significant Impact (FONSI) was signed by the Regional Director in May, 2002. Actions were completed in 2004.

Merced River Ecological Restoration at Eagle Creek Project

Eagle Creek flows into Yosemite Valley immediately west of the Three Brothers rock formations and joins the Merced River about one-half mile downstream from Yosemite Lodge. The creek banks of the reach of Eagle Creek between Northside Drive and the Merced River were badly eroded and only sparsely vegetated, partly due to trampling by pedestrians. The eroded riverbank was recontoured, then revegetated; the trampled river terrace was decomplacted; and fences were constructed to direct visitors to sandbars for river access. The ecological restoration effort involved the following:

- Plug remaining portions of abandoned sewage lines with concrete and remove the manhole and the concrete structure that crosses the creek bed.
- Restore the eroded creek channel using methods previously tested on the banks of the Merced River. Restoration techniques require building up the bank with willow cuttings, woody debris, rock and mulch.
- Revegetate the bank of Eagle Creek with native shrubs, cuttings, and seeds.

- Redirect visitors to access the river in a more appropriate location that will not cause bank erosion.

This project was completed in 2003.

Red Peak Pass Trail Rehabilitation

This project reconstructed the trial from Red Peak Pass to the Triple Peak Fork of the Merced River. Work included rehabilitation of rock retaining wall, rip-rap tread, water breaks, terrace steps, and restoration of meadow rutting.

The project began in 2006 and was completed in 2011.

Rehabilitate Yosemite Valley Campground Restrooms

This project rehabilitated 19 six-stall restrooms in Upper Pines, Lower Pines, and North Pines Campgrounds, as well as the 15- to 20-foot walkway approach to each restroom. Work included replacement of partitions by installing graffiti-resistant surfaces, painting of exterior trim and interior walls and floors, replacement of mirrors and toilet paper dispensers, repair of outside privacy screens, improvements to meet Americans with Disabilities Act accessibility requirements, replacement of wall vents, replacement of signs, replacement of electric service panels, improvement of lighting, and replacement of fill materials for walkway approaches. This project was completed in 2004.

South Entrance Station Reestablish Exit Lane

The project included re-establishing the old road alignment for exiting-southbound traffic from Yosemite National Park and then completing asphalt repairs on the existing pavement surrounding the South Entrance Kiosk. Work included an initial geotechnical investigation to determine the roads design profile. With this design information the road subgrade was regraded and compacted, then compacted fill and base material was used to create a structurally sound subbase and then the final surface treatment was compacted asphalt pavement. The initial geotechnical investigation, included 2-deep borings up to 10-ft. deep (6" Dia.) and 3-shallow borings up to 2-ft. deep (6" Dia.), to determine the existing subgrade conditions and to develop the necessary design to withstand the current traffic loadings that use this road surface. This work also included relocation of telecommunication and power lines, a light pole, as well as abandonment of an existing ventilation shaft. Construction was completed May 2012.

Yosemite Valley Lost Arrow Temporary Employee Housing

This project temporarily located 6 units of portable housing for park concessionaire (DNC) employees from Curry Village to the existing 40 units of Lost Arrow temporary employee housing area at Yosemite Village, which was created subsequent to the 1997 flood that destroyed existing employee housing at other valley locations. This proposed temporary solution was developed as a part of the settlement agreement that also includes preparation of the Revised Merced Wild and Scenic River Comprehensive Management Plan/EIS. This project was completed in 2009.

Yosemite Valley Ahwahnee Temporary Employee Housing

Rockfall events at Curry Village in October 2008 resulted in the permanent closure of the Terrace tent cabin employee housing area and other hard sided structures located in the rockfall hazard zone at Curry Village, as revised and expanded based on analysis conducted after the October rock fall. Prior to the October 2008 rock fall, Yosemite Institute had use of tent cabins and hard-sided structures at Curry Village for student and teacher lodging. Subsequent to the closure of tent cabins and other hard sided structures within the revised rockfall hazard zone, the former Boys Town tent cabin employee housing was converted to student and teacher lodging for Yosemite Institute, leaving a deficit of DNC employee housing. Of the 293 Curry Village employee beds lost to closure or conversion as a result of the October 2008 rock fall, relocation of housing for DNC employees was essential to support visitor use. DNC needed to replace approximately 243 to 273 employee beds. This proposed temporary solution was developed in consultation with Friends of Yosemite as part of a litigation settlement that also includes preparation of the Revised Merced Comprehensive Management Plan and Environmental Impact Statement (EIS). This action provided temporary lodging for 12 employees, and was needed to help meet immediate short-term housing needs for NPS's concessioner (DNC) until permanent employee housing is available. This project was completed in 2009.

Yosemite Valley Loop road Rehabilitation

This project repaired and resurfaced existing roadway pavement, improved drainage facilities, and defined roadside parking throughout the project area. No widening or realignment of roadway off of the existing road bench was done. Areas with soft or poorly draining subgrade were excavated and replaced with better foundation materials. Low-lying areas subject to flooding will be evaluated with alternative concepts to determine the potential impacts.

Completion: A Finding of No Significant Impact (FONSI) was signed by the Regional Director in February 2006. Actions were completed in 2008.

Yosemite Valley Shuttle Bus Stop Improvements

This project consisted of the preparation of preliminary design plans, environmental compliance documents, and construction drawings; the construction of six, 10-foot by 80-foot concrete braking pads, and the rehabilitation or replacement of 94,000 square feet of asphalt road approaches and the construction of bus stop shelters. Construction was completed in 2010.

Wawona Road Rehabilitation Project

This project pulverized and repaved approximately 25 miles of the Wawona Road (Route 0014; FMSS# 10814) between Southside Drive and South Entrance. The proposal included minimal work at pullouts and intersections, which were within the existing paved footprint. This project did not alter the historic character of the road. The road width remained the same and all drainage improvements were done in accordance with the Secretary of the Interiors Standards for the Treatment of Historic Properties, in consultation with the Division of Resources Management and Science.

The existing 24-foot wide paved road will be recycled (pulverized) and overlaid with spot reconstruction of subgrade and shoulders as required.

Only minimal drainage work involving failed or severely undersized culverts will be included. For any culverts that are relatively deep, slip-lining will be considered.

Only minimal work at turnouts and intersections, which will be within the existing paved footprint.

Pavement borings will be required to design the structural section for the roadway, which would need to begin in March-April 2009 (Fifty borings, approximately every 1/2 mile over the 25-mile segment).

Areas disturbed by construction will be revegetated under guidance of the park revegetation staff.

This project was completed in 2011.

PRESENT

Yosemite National Park Annual Fire Management Plan (Operational Fire Management Plan)

Yosemite National Park's fire management program employs a variety of methods to accomplish and support fire and resource management objectives and to reduce the risk of wildfire in and adjacent to the park. Strategies in this plan are based on knowledge gained from fire and fuels research and monitoring. Federal fire policy has changed in the past 30 years from suppression of all wildfires to a policy allowing a single fire to be used as a tool to meet multiple land management and public safety objectives. Fuel reduction and prescribed burning have increased since the 1990 A-Rock Fire, and the fuels management program focuses on the wildland-urban interface to protect developed areas from uncontrolled wildfires. Yosemite National Park's 2008 Operational Fire Management Plan serves to utilize the new fire management guidelines in outlining procedures for managing fire in Yosemite National Park; for restoration and maintenance of ecosystems, for reduction of hazard fuels, for protection of natural and cultural resources, and for protection of wildland urban interface communities.

Ahwahnee Comprehensive Rehabilitation Plan

The purpose of this project is to develop a comprehensive plan for phased, long-term rehabilitation of The Ahwahnee National Historic Landmark hotel and associated guest cottages, employee dormitory, and landscaped grounds in order to:

- restore, preserve, and protect the historic integrity and character-defining features of The Ahwahnee by rehabilitating aged or altered historic finishes and contributing landscape features;
- enhance visitor and employee safety by bringing the buildings and grounds into compliance with current building, fire, life safety, and seismic standards;

- improve hotel energy efficiency and operations by repairing or replacing outdated or inefficient building systems and components; and
- protect and enhance the visitor experience at The Ahwahnee through improved operational efficiency, increased accessibility, and rehabilitation of historic resources.

After more than 80 years in service, the hotel and associated structures are in need of rehabilitation because the facilities at The Ahwahnee are not fully compliant with the most recent building and accessibility codes, including International Building Code (IBC), National Fire Protection Association (NFPA) Code, Federal Emergency Management Agency (FEMA), IBC seismic requirements, and Americans with Disabilities Act (ADA) standards.

Many of the electrical, plumbing, and mechanical systems serving The Ahwahnee facilities are aging and need to be replaced and updated. Some historic hotel finishes and landscape components are timeworn or have been altered over the years, potentially affecting the historic integrity of this property. The current operational layout of some working areas reduces the efficiency of providing a high level of visitor services.

The architectural team is currently evaluating the operational needs and code compliance needs of The Ahwahnee. These needs, along with recommendations from recent cultural landscape and historic structures reports, detailed seismic studies, and issues and concerns identified during public scoping, will inform the development of alternatives for this project. The *Scenic Vista Management Plan* has identified several vistas at the Ahwahnee that will be considered for management.

The Finding of No Significant Impact was signed on January 3, 2012. Implementation of the plan will be through a long-term, phased approach as funding becomes available.

Air Quality Monitoring and Air Pollution (California Air Resources Board)

SV, TRP- Human activities (such as suburban growth, industry, transportation, and farming and ranching) in the San Joaquin Valley, San Francisco Bay area, and Sierra foothills create air quality impacts that occasionally violate federal standards, particularly for ozone and for particulates. Some of these pollutants disperse into the Yosemite area, affecting the park's air quality and visibility. Yosemite is a Class 1 airshed according to the Clean Air Act, conferring additional protections upon the park (requiring cleaner air). Unfortunately, due to the long-distance transport of regional pollutants, the park has recorded between four and 24 exceedances of federal air quality standards for ozone annually for the last 10 years (a median of six exceedances). Additionally, the park suffers visibility degradation, especially on summer afternoons, due partly to particulate generation (the small portion of Yosemite within Madera County is a nonattainment area for particulates). While the California Air Resources Board has implemented some strict air pollution controls (such as the smog checks done biannually on all vehicles licensed for operation in the state) and seen associated improvements in air quality, impacts on the park's air quality and visibility continue. These impacts are expected to continue for the foreseeable future.

Scheduled/projected completion: This project is ongoing.

Invasive Plant Management Plan Update

There are over 150 non-native plant species in Yosemite National Park, which is approximately 10% of the park's flora. Of these, 28 species are listed for control by the U.S. Department of Agriculture, California Department of Food and Agriculture, or California Exotic Pest Plant Council. Species targeted for control in Yosemite include bull thistle, mullein, yellow star thistle, spotted knapweed, perennial pepperweed, purple vetch, rose and burr clovers, Himalayan blackberry, white and yellow sweet clover, non-native wildflowers, and escaped landscaping plants such as foxglove, ox-eye daisy, pink mullein, French broom, tree-of-heaven, and black locust. The current control program includes using Global Positioning System (GPS) technology to map plant populations. Crews then remove plants using a variety of techniques, including hand pulling. Treated areas are photographed and re-visited each year to assess the results and provide follow-up treatment.
The plan defines a set of comprehensive programs, including the following:

- Education and focused research.
- Prioritized prevention and control efforts using a variety of techniques and appropriate mitigation measures.
- Systematic monitoring and documentation of invasive plant status and the results of management efforts.
- Restoration of ecosystems altered by invasive plants.

Control methods being considered include some combination of thee following: hand-pulling or using various machines to try and remove plants; releasing predatory insects or fungus to attach plants; educating users and staff about preventative measures; and using chemical treatments derived from natural products like vinegar, or manufactured chemicals like glyphosphate. Program goals include eradicating (or at least controlling) invasive plant species; preventing new invasions; restoring and maintaining desirable plant communities and healthy ecosystem; enhancing the visitor experience; and educating park staff, partners, and users.

The original FONSI was signed in 2008 and an update was completed in 2011. Annual workplans are posted on the park website for public review.

Curry Village Rockfall Hazard Zone Structures Project

Built in the 1920s, rustic hard-sided cabins with bath and cabins without bath make up the majority of the structures in the closed zone. Six other structures include the Foster Curry Cabin (Tresidder Residence), associated visitor support structures (e.g., restrooms, shower house), and two non-historic structures.

The selected action will remove all structures as to maximize safety for park visitors and employees and eliminate the need for administrative access to the closed area. This entails documentation of the historic structures, salvage of historic materials for reuse, removal of all structures remaining in the rockfall zone, installation of interpretative materials, and allowing the area to return to its natural state.

The Finding of No Significant Impact (FONSI) was signed on February 7, 2012, and the corresponding Memorandum of Agreement (MOA) was signed on December 28, 2011.

Since the signing of the FONSI and MOA, new data determined that an additional five (5) buildings were located within the rock fall hazard area. The disposition of these structures will be amended to the Curry Village Rockfall Hazard Zone Structures Project FONSI and MOA. Implementation of the plan will occur prior to the signing of the Decision Document for the Merced River Plan in 2013.

Climate Change/Petition to list the pika as a threatened species (US EPA/US Fish and Wildlife Service)

It is now the accepted understanding in the scientific community that climate change (global warming) is presently occurring and that human activities are causing a substantial portion of such warming. In Yosemite, climatologists have noticed earlier snowpack melting in spring, higher spring temperatures, more precipitation falling as rain (instead of snow), dryer spring seasons, earlier green-up times, a three-degree increase in nighttime low temperatures, a 50% reduction in the size of Lyell Glacier, and increased mortality among conifers — all changes that are attributable at least in part to human activity.

Comparing contemporary small mammal ranges in Yosemite with those observed by Joseph Bird Grinnell in the early 20th century, biologists have determined that of the 28 small mammals observed in his studies, half had expanded their range upward by more than 500 meters (1,600 feet). The pika, a member of the rabbit family that tends to live at higher elevations, exemplifies this trend. The small animal is adapted to life at or above timberline, gathering and drying tundra grasses and forbs for winter use and possessing (for the rabbit family) small ears to minimize heat loss. Its high range means that if the animal responds to a warming climate by moving upslope, it may eventually run out of room to range. If climate change continues unabated and the pika's response to move upslope continues, it appears that there will be no higher elevations for the mammal to occupy. For this reason (and pursuant to a lawsuit from a conservation group against the USFWS), the animal is now a candidate for listing as a threatened species pursuant to the Endangered Species Act. At least two other species of small mammals, a chipmunk and a woodrat, have seen dramatic shrinkage in the overall size of their ranges, and are now extremely rare in Yosemite. Scheduled/projected completion: This project is ongoing.

Commercial Use Authorization for Commercial Activities

The purpose for the issuance of these commercial use authorizations (CUA, previously titled Incidental Business Permit) is to regulate and oversee operations of permit holders involved in conducting commercially guided day hiking, overnight backpacking, fishing, photography workshops, stock use (pack animal trips and pack support trips for hikers), and Nordic skiing activities in Yosemite National Park. In addition to the base CUA, additional uses and activities may be allowed depending on the holder's request and compliance with all applicable laws, regulations, and guidelines. Conditions for these additional activities are stipulated in the body of the individual permit for each activity. The permitted activities are to be conducted only in those areas of Yosemite National Park open to the public

and authorized by the permit. The permit holder is required to obtain any additional permits or licenses as required by law.

Permits are renewed annually.

Comprehensive Interpretive Plan

The Comprehensive Interpretive Planning (CIP) process is established in Director's Order 6 and is the basic planning component for interpretation. The CIP is a tool for making choices. It helps parks decide what their objectives are, who their audiences are, and what mix of media and personal services to use. The product is not the plan, but an effective and efficient interpretive program that achieves management goals, provides appropriate services for our visitors, and promotes visitor experiences.

The heart of the CIP is the Long-Range Interpretive Plan (LRIP) that defines the overall vision and long-term (five to ten years) interpretive goals of the park. The process that defines the LRIP also encourages development of targeted, realistic strategies and actions that work toward achievement of its goals. Actions divided into annual, achievable steps are reproduced in the Annual Implementation Plan. Creating annual plans via this "stepping down" of the LRIP simplifies much of the annual planning process because specific goals already have been identified in the LRIP. The last section of the CIP is the Interpretive Database, which is a compilation of information needed to build the other two components. It includes media inventories, the park's strategic plan, enabling legislation, visitor surveys, reports, a bibliography, and other basic information.

TL- The Comprehensive Interpretive Plan (CIP), which will outline a comprehensive approach to interpreting park natural and cultural resources. The CIP is necessary to ensure long-term protection of resources through visitor understanding and enjoyment.

The final product of this effort will guide interpretation and education in Yosemite for the next five to 10 years.

Crane Flat Utilities

This project (Phases 1 and 2) will replace the waterlines and appurtenances for the entire Crane Flat area with the goal of eliminating substantial loss in the system. The existing system includes 9,700 linear feet (lf) of 6" main, 4,066 lf of 4" main and 300 lf of 1" drain pipe. This existing distribution system was designed and installed in the mid 1960's. The system has reached its design life and replacement is required to meet facility maintenance goals. The substantial amount of leakage throughout the entire system eliminates section replacement or pipe-bursting as effective maintenance options.

Phase 1 was completed in 2009. Archeological and anthropological studies were conducted in 2010 to inform Phase 2 design.

East Yosemite Valley Utilities Improvement Plan

The existing utility infrastructure serving Yosemite Valley was identified as a potential problem due to its age, condition inadequate capacity, inaccessibility to future facilities and inappropriate location in environmentally sensitive areas. The National Park Service completed an Environmental Assessment and a Finding of No Significant Impact for the Utilities Master Plan was signed in October 2003 to allow efficient relocation and upgrading of utility systems to provide for utility needs while reducing long-term environmental impacts from utility repair and maintenance activities. Construction of phase 1 of the improvement began in 2005 and has been ongoing with implementation of the utility improvements occurring in three phases over 10 years.

Reconstructing Critically Eroded Sections of El Portal Road

The purpose of this project is to reconstruct the critically eroded sections of El Portal Roadand repair those portions of the road and embankment that are at risk of failure as a result of the damage initially caused by high-water events of the Merced River, including the devastating flood of January 1997. By promptly reconstructing the failing portions of El Portal Road, park visitors will be protected from the hazard of a sudden road failure, and access to Yosemite Valley will be maintained. The Finding of No Significant Impacts was signed in July 2007.

Fuels reductions/forest rehabilitation projects (US Forest Service)

The Sierra and Stanislaus national forests are both conducting a variety of projects aimed at reducing fuels and/or restoring more natural conditions in their west-slope Sierra forests. These projects have two primary purposes: to reduce the intensity and spread of wildfires across the landscape and near communities, and to reduce stand density within the lower and mid canopy layers of conifer stands to such a level as to provide for increased stand resiliency, growth, and vigor. To accomplish these goals, workers in the forests thin conifer stands to reduce stand densities and ladder fuels; masticate ladder fuels and brush/shrub patches; utilize prescribed burning, understory and pile; manually treat and/or prescribed burn noxious weed infestations; and site prepare and plant failed conifer plantations. Areas where such work is being conducted include:

- the Dinkey North and South areas about 30 miles northeast of Fresno, California;
- the High Sierra Ranger District (specifically, creating a fuel break);
- the Kings River drainage south of Yosemite;
- the Highway 4 corridor from Poison Spring to Spicer Road;
- the Calaveras Ranger District, Northeast of Dorrington, near Prather Meadows and Big Rattlesnake Creek;
- the Middle Fork Tuolumne River area;
- Greeley Hill and Wagner Ridge;

- the Twomile planning area, located within the Clavey River watershed, encompassing portions of Hull Creek, Twomile Creek, and the Clavey River;
- the Pacific Southwest Research Station;
- Fence Creek Road (6N06) and Wagner Cabin Tract; and
- Gooseberry Forest and Meadow, north of Bell Meadow and west of Gianelli Trailhead.

Scheduled/projected completion: Some form of fuel reduction/forest restoration is ongoing at all times in the west-slope Sierra national forests.

General Ecological Restoration

Yosemite National Park undertakes actions for ecological restoration as independent actions or as part of a larger plan on an ongoing basis. These actions involve a varying degree of compliance. Many of these projects are not major actions in themselves, but these actions collectively are considered in the analysis of this plan.

These actions are ongoing.

Yosemite National Park General Management Plan

As defined in the NPS park planning program standards, the purpose of the GM is to ensure that park managers and stakeholders share a clearly defined understanding of the resource conditions, opportunities for visitor experiences, and general kind of management, access, and development that will best achieve the park's purpose and conserve its resources unimpaired for the enjoyment of future generations. The GMP is the blueprint for improving and preserving the park for the next century. It was finalized and signed in 1980. The plan describes actions that would achieve five broad goals:

- Reclaim Priceless Natural Beauty;
- Markedly Reduce Traffic Congestion;
- Allow Natural Processes to Prevail;
- Reduce Crowding; and
- Promote Visitor Understanding and Enjoyment.

A complete description of how the Yosemite National Park GMP interfaces with the Merced River Plan is included in Appendix A.

Half Dome Trail Stewardship Plan

The NPS is developing a management plan to address impacts caused by crowding and congestion along the Half Dome trail. The purpose of this project is to provide appropriate opportunities for recreation on the Half Dome Trail given its location in designated wilderness. The wilderness character of the trail corridor and the ability of visitors to manage their own risk will be improved.

Increased use of the Half Dome Trail has led to conditions that adversely impact wilderness character, including:

- **Unconfined Recreational Experience:** Crowding and long lines on the sub dome, summit, and cables limit freedom of movement
- **Opportunities for Solitude:** High encounter rates on the trail result in inappropriate conditions for experiencing solitude in wilderness
- **Natural Conditions:** Visitor impacts include trail erosion, habituated wildlife, litter, and human waste have resulted in long-term effects to natural resources
- **Self-Reliance:** Queuing and congestion on the cables compromise the ability of hikers to manage their own risks

An interim permit system was implemented in 2010-2012, limiting day use on the trail to 400 people per day. The selected action limits use to 300 people per day.

The FONSI is anticipated in Fall/Winter 2012 and the plan will be implemented for the hiking season in 2013.

High Elevation Aquatic Resources Management Plan

Two species of native amphibians (Sierra Nevada yellow-legged frog and Yosemite toad) are experiencing serious population declines. Habitat restoration and preventative measures are needed to prevent additional loss and the potential extirpation or extinction of these species within the park or the Sierra Nevada, respectively. The presence of introduced nonnative invasive aquatic species is decreasing the abundance and distribution of native species, resulting in unnatural diversity and abundance, and impacting the healthy functioning Yosemite's high elevation aquatic ecosystems. Management action is needed to remove and limit the spread of existing invasive species, and prevent the introduction of new invasive species. Protection of the park's high elevation aquatic ecosystems requires an understanding of the current status of these systems and a framework for evaluating and prioritizing research needs and management actions that may be necessary to ensure that park resources and values within these systems are unimpaired.

Public Scoping was conducted in summer 2008.

Wahhoga Indian Cultural Center

In keeping with Yosemite’s General Management Plan, the National Park Service entered into an agreement with the American Indian Council of Mariposa County, Inc. (also known as The Southern Sierra Miwuk Nation) in 1997 to work together in establishing an Indian Cultural Center at Wahhoga, the site of the last historically occupied Indian village in Yosemite Valley (just west of the Camp 4 walk-in campground). The center will provide a location for traditionally associated American Indian peoples to practice traditional cultural activities and ceremonies, as well as teach traditional lifeways. The center will be available to the public and provide a unique opportunity for visitor awareness of local Native American cultures. Through this understanding of local culture and traditions, guests will

gain a greater understanding of the park's natural and cultural resources and their significance to the cultural systems of traditionally associated American Indians. The project has been designed to include both traditional and modern structures. The traditional structures planned for the site include a ceremonial roundhouse, one sweatlodge, and numerous cedar bark umachas (conical houses), and a sun shelter and demonstration area. A historic cabin would be relocated to the site. A community building and small parking area would comprise the modern buildings and structures.

Construction on traditional structures began in 2009; there is no current estimated date for project completion.

Inyo National Forest Travel Management Plan and Forest Plan Revision (US Forest Service)

The U.S. Forest Service will be developing travel management plans and forest plans for all national forests in California over the next few years. Travel management plans specify which forms of travel are allowed in which areas of the national forests. Forest plans guide where and under what conditions an activity or project on national forest lands can generally proceed. Some of the forests have completed one or both of these tasks.

Scheduled/projected completion: mid-2010s.

Mariposa County General Plan Housing Element Update

Mariposa County is updating the Housing Element of its County General Plan. The Housing Element Update does not provide approval for any specific projects (no ground disturbance would result directly from this plan), but rather provides broad guidance to meet the California State legislature's intent of providing for the availability of housing, expanding housing opportunities, and accommodating the housing needs of all economic segments and income groups in the county.

Scheduled/projected completion: 2010.

Mariposa County General Plan (Update)

The Mariposa County General Plan updated the countywide zoning ordinances and related implementing documents. The update allowed Mariposa County to comply with current California law and changes to state law since the 1980 General Plan was adopted. This update followed established public involvement protocol and responded to countywide land-use issues. The Mariposa County General Plan update was completed in 2005.

Parkwide Communication Data Network

Yosemite National Park is implementing a Communications Data Network (CDN) infrastructure upgrade utilizing available, commercial off-the-shelf technology supporting a single "hybrid communication backbone" employed throughout the park -- to maximize existing equipment use,

minimize current and planned costs, to fulfill the park's future operational and security needs. This "backbone" will be a microwave and fiber optic pipeline used to transfer computer LAN data, radio communications, security and safety video systems, telephony, burglar/intrusion, fire alarm systems, traffic collection data, and telemetry throughout Yosemite. Upgrading the network also serves to enhance compliance and utilization of the narrowband and digital P25 compliant radio infrastructure as well as providing enhanced LAN connectivity for remote areas such as Wawona, Crane Flat, Hodgdon Meadows, and Tuolumne Meadows.

The CDN is designed to serves six geographic areas of the park as well as the five park entrance stations. The geographic areas include El Portal, Yosemite Valley, Wawona, Crane Flat Hodgdon, Tuolumne Meadows, and Hetch Hetchy. The final installation will be a hybrid infrastructure, based around proven microwave technology that linking the geographic areas with multiple T-3 level bandwidth managed as necessary by park staff. There will be no need to rely on an independent service provider for maintenance of the system, as the backbone will be maintained by park staff.

During the first phase of project design, a needs assessment, schematic design and installation strategy, and frequency study will be commissioned to identify what system components are needed for enhanced connectivity to the different geographic regions throughout the park. Possible backbone technologies include fiber optics, VHF radio, UHF radio, microwave radio, cellular, and satellite.

Fiber optic is envisioned as the solution to connect government facilities in the Wawona Maintenance area and also Big Oak Flat Entrance Station to the Hodgdon Maintenance area. Fiber optic will also be utilized to enhance infrastructure in Yosemite Valley resulting in all NPS administration facilities being located on one fiber network. Wireless bridges and pair gain technology will also be utilized to connect remote facilities as required.

A Finding of No Significant Impact was signed for the Parkwide Communications Data Network and Environmental Assessment in May 2010. This project will be implemented over 5-10 years.

Recreational Facility Analysis (US Forest Service)

In 2007, the USFS completed an analysis of its public recreation sites. The analysis examined existing demand for the recreational resources, the need to update or change the sites to meet the demand (including closing some sites that no longer have demand), and the agency's ability to make the recommended changes. The analysis concluded with a program of work to reduce the deferred maintenance on the sites by 20% in the ensuing five years. The work will include everything from improvements at some sites to closure of others.

Scheduled/projected completion: This project is ongoing.

Scenic Vista Management Plan

The purpose of the Scenic Vista Programmatic Management Plan for Yosemite National Park is to develop a systematic program to protect and restore Yosemite's important viewpoints, vistas, and the natural processes that created them. This plan will fulfill the park's obligations under the National

Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA). The program will replace the park's current case by case approach and will enable and guide management actions by the NPS to:

- Develop an objective process to determine what methods would be used to manage vistas
- Preserve the historic and cultural settings in which the viewpoints were established
- Restore and maintain scenic vistas through appropriate vegetation management actions such as trimming or removing trees and clearing brush
- Accomplish scenic vista management, whenever practicable, by restoring natural species composition, structure, and function to systems, preferably by using traditional American Indian vegetation management practices, including fire

The Finding of No Significant Impact was signed in 2010 and associated actions are being implemented in locations outside of the Merced River corridor. The Merced River Plan will be the compliance document for scenic vista management actions to be taken within the river corridor.

Special Use Permit Issuance for Events and Activities

Within Yosemite National Park, special use permits are required for first amendment activities, special events, business operations, public assembly, sale, or distribution of printed material, or construction. Approximately 50 special use permits are issued annually for special events (often weddings) at Tenaya Lake.

Tioga Road Rehabilitations

The project proposes restoration of the roadbed by repaving, restoring ditches and shoulders, addressing turnouts, and replacing undersized or failing culverts to facilitate drainage. Specifically proposed in this plan:

- Historic stone culvert headwalls would be maintained or carefully removed and reconstructed.
- In addition to culverts, drainage ditches along this segment would be reconstructed to help facilitate proper drainage of the roadway.
- Some undesignated turnouts would be restored to natural conditions. These areas are either considered unsafe due to their inadequate size, sight distance, and/or location partially on and off the roadway; or they incur damage to nearby natural resources.
- Designated, formal parking areas would be retained and repaved. Additional parking areas would be delineated and formalized with paving.
- •Selective thinning of roadside trees would occur to improve sight distance and prevent root penetration into the roadway, which is currently causing upheavals in the shoulder and paved roadway surface. Thinning of trees would also reduce ice build-up on the road, and reduce snow plow damage.

A Finding of No Significant Impacts is anticipated in 2012. Implementation will be phased over 5 or more years.

Tuolumne Wild and Scenic River Comprehensive Management Plan

The NPS is preparing a comprehensive management plan for the segments of the Tuolumne River corridor within Yosemite National Park. When completed, this document will guide the future management of the river to ensure the protection and enhancement of the river's Outstandingly Remarkable Values and its free-flowing condition. The plan will also determine more specifically the programs and activities needed to meet river protection goals in Tuolumne Meadows and throughout the river corridor.

To achieve these objectives, the Tuolumne River plan will:

- review, and if necessary revise, the existing boundaries and segment classifications of the Wild and Scenic River corridor;
- establish management zoning in the river corridor to provide for a spectrum of interrelated resource conditions and visitor experiences;
- establish clearly stated long-term goals (desired conditions) for resource protection and visitor experiences, and identify the indicators and standards for a monitoring program that will ensure these goals are met and maintained over time;
- address user capacity by identifying the appropriate kinds and levels of use that protect river values while achieving and maintaining the desired conditions; and
- identify specific programs and facilities needed to implement the long-term goals for the Tuolumne Meadows area established by the Tuolumne River plan.

The Tuolumne is rich in what the Wild and Scenic Rivers Act calls outstandingly remarkable values. It is home to a vast range of ecologic and sociocultural values, including:

- intact ecosystems providing habitat for a remarkable diversity of species;
- some of the most extensive subalpine meadow and riparian communities in the Sierra Nevada;
- exceptionally well preserved evidence of glacial processes;
- regionally significant archeological evidence of prehistoric travel, trade, and settlement;
- Prehistoric resources important for maintaining cultural traditions of American Indian people;
- Magnificent scenery;
- Outstanding opportunities for a diversity of recreational experiences; and
- Invaluable opportunities to examine natural and cultural resources with high research value.

A draft environmental impact statement is anticipated in Fall/Winter 2012.

Vegetation Management Plan

The Yosemite National Park Vegetation Management Plan (NPS 1997a) establishes guidance for vegetation management issues. The purpose of the plan is to define objectives, techniques and strategies for managing vegetation while preserving scenic resources and providing resource and visitor protection. This plan also contains sections pertaining to manipulating roadside vegetation including providing clearance for large vehicles (e.g., snow loading equipment), hazard tree safety, road user safety, and wildlife protection.

One objective of the Vegetative Management Plan is to provide for visitor recreation, access, enjoyment, safety, and understanding of park plant communities and ecosystems (NPS 1997a). This can be accomplished by managing for and allowing only those types and levels of public, administrative, or consumptive uses that do not impair park native plant communities or threatened, endangered, candidate, or sensitive species. Ecologically sensitive areas are to be protected to prohibit impairment, with development and use directed to environments least vulnerable to degradation or where such use will not impact the viability of these areas and their scenic and scientific values (NPS 1997a).

One solution involves limitation of access to sensitive resources, which includes:

- Identify and eliminate those human activities, including management actions that cause damage and affect resource integrity.
- In non-wilderness areas, construct fences, boardwalks, hardened trails, and other structures where necessary to protect soils and vegetation from human-use impacts.
- Provide closures of areas undergoing restoration and revegetation from human activities until the rehabilitation has been fully accomplished.
- Develop and maintain signing and educational material to educate visitors and convince them of their obligation to help protect park resources.
- Roadside management: weeding by volunteers and employees who recognize certain species and use their own time to eradicate them.
- Revegetation is another important objective, and may include any or all of the following steps:
- Elimination of non-native plant species;
- Application of native or non-native (sterile rice straw) mulches;
- Seeding from locally gathered native plants appropriate to the site;
- Revegetation with plants salvaged from the site prior to physical restoration or from adjacent areas when these are available;
- Planting with propagated plants that have been produced from plant materials previously collected from the site;
- Installation of temporary or permanent area closures to allow plant establishment and protection from potential human-caused disturbances.

- Revegetated sites should be monitored and maintained for a number of years following replanting (NPS 1997a). Maintenance prevents the establishment of non-native plants and monitoring will help assess the effectiveness of various planting techniques and the feasibility of transplanting various plant species.

On-going.

Yosemite Environmental Education Campus

NatureBridge, an NPS nonprofit park partner, has provided environmental education programs in Yosemite National Park since 1971 at the NPS facility at Crane Flat. Most of the campus structures and utilities are more than 60 years old, energy inefficient, and difficult to retrofit to achieve modern standards for health, safety, and accessibility. In addition, the facility can accommodate only a fraction of the students in the program; the remainder must be based elsewhere in the park, in expensive commercial lodging. To address these issues, NatureBridge and the NPS are considering options to provide better facilities by redeveloping the existing campus (Crane Flat) or constructing a new education center at a different location (and restoring the Crane Flat campus to natural conditions). The draft environmental impact statement (EIS), released in May 2009, proposes to develop a new educational facility at Henness Ridge, near Yosemite West, and to restore Crane Flat to natural conditions and provide habitat for sensitive species.

Scheduled/projected completion: The Record of Decision was signed by the Regional Director on April 2, 2010.

The purpose of the proposed action is to:

- Promote the development of future stewards for the environment and our national parks
- Provide an environmental education campus location and program that better serves the combined missions of the Yosemite Institute and Yosemite National Park
- Provide a safe and universally accessible campus facility that meets modern health and safety standards
- Increase overall program student capacity and reduce reliance upon commercial lodging (i.e., reduce the number of students currently staying overnight in Yosemite Valley) to make the program more affordable and more accessible to all children.
- Provide a location conducive to multi-day experiential programs that complement California state educational standards and offer opportunities for research and study of the natural world
- Provide a campus facility that meets or exceeds national Leadership in Energy and Environmental Design (LEED) standards
- Create a campus design that better encourages responsible interaction with the environment
- Establish an ecologically sensitive campus that protects park resources and provides exemplary environmental educational learning opportunities

The Final EIS for this project was released in January 2010 followed by a Record of Decision in spring of 2010.

Restoration of the Mariposa Grove Ecosystem

Nearly 150 years after U.S. Congress passed landmark legislation preserving both the Mariposa Grove of Giant Sequoias and Yosemite Valley, comprehensive actions are needed to ensure that the Mariposa Grove ecosystem continues to thrive and provide inspiration and enjoyment for future generations. The primary goals of this project are to restore degraded habitat and natural processes critical to the long-term health of the Grove and improve the overall experience for visitors. The park began public scoping for this project in fall of 2011. A Draft EIS is anticipated for public release prior to the Record of Decision for the Merced River Plan.

REASONABLY FORESEEABLE FUTURE

Changing demographics of visitors in Yosemite

TRP- Americans, and especially Westerners, have expressed an increasing interest in recreation in the last twenty years (all kinds of recreation, but especially bird watching, hiking, and walking (Cordell 2004)). In Yosemite, visitors have expressed an interest in kayaking the Tuolumne River. Other visitors already hang-glide from Glacier Point and pursue other activities not ordinarily found in other national parks. Between 28 and 55% of visitors take a hike while in Yosemite, and 23 to 42% observe wildlife, but only 3 to 6% participate in rock climbing (citation needed here). These percentages change over time, bringing associated changes in demand to park resources and managers.

Concessioner Prospectus

The National Park Service (NPS) has continued the contract with DNC Parks and Resorts at Yosemite, Inc. to provide visitor services within the park from October 1, 2011 through January 31, 2015. The previous contract extension expires on September 30, 2011. The park is continuing the process of developing a new prospectus for visitor services. The continuation of the contact was deemed necessary to ensure that there is no disruption of visitor services while the park works on several planning efforts. The provisions of the current contract will not change. DNC Parks and Resorts at Yosemite, Inc. will continue to provide existing services from October 1, 2011 through January 31, 2015 or until such time as a new contract regarding the visitor services provided under the contract is awarded, whichever comes first.

Curry Village Rehabilitation of Historic Cabins with Bath Structures

This project will address a rehabilitation program for the twenty-six (26) guest cabins with baths (24 duplex and 2 quadplex Bungalows, or WIBs) that are still being used for guest accommodations on the western side of Curry Village just north of the rockfall hazard zone. Built from 1918 to 1922 by Curry Company, these 26 bungalow structures have deteriorating and failing foundations. The structures

were originally built using rocks as piers where practical and most often with wood piers set directly on the ground. Perpetual shade of the southern cliffs, the flow of water off Glacier Point cliffs, and seasonally deposited silt on the upslope side are rotting out many softwood piers, rim joists, sub and finish floor, and exterior vertical base sheathing. This project is currently in the design stage and would be implemented in a multi-year phased project.

Yosemite Wilderness Stewardship Plan

The National Park Service will be updating the 1989 Yosemite National Park Wilderness Management Plan. The objective of updating the plan is to provide guidance to park operations for the successful management of Yosemite's designated wilderness, which comprises over 95% of the park. The plan will address land management issues within the wilderness including visitor use, vegetation associations, air resources, noise issues, watershed, soils, cultural landscapes, and other natural, cultural, and social resource variables. The plan update will also address the use of the five High Sierra Camps in Yosemite National Park.

The development of the EIS update to the plan is anticipated to begin in 2013.