



Redwood National and State Park
California

Northern California Condor Restoration Program

Final Environmental Assessment



A Cooperative Project Between the US Department of the
Interior (National Park Service, Redwood National Park and
US Fish and Wildlife Service) and the Yurok Tribe

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CHAPTER 1

Purpose and Need



CHAPTER 1: PURPOSE AND NEED

INTRODUCTION, BACKGROUND, AND PROPOSED ACTION

The National Park Service (NPS), US Fish and Wildlife Service (USFWS), and the Yurok Tribe are proposing to establish a California condor restoration program centered at Redwood National Park (the park). This environmental assessment (EA), undertaken for the proposed action, stems from a requirement under a National Environmental Policy Act (NEPA) process being co-led by the NPS, USFWS, and the Yurok Tribe. NPS, USFWS, and the Yurok Tribe created an interagency planning team (IPT) comprised of representatives from each entity to assess the proposed condor restoration program and develop this EA. The IPT is considering whether to establish a program and where to place infrastructure to support such a program. A map of the park and the Yurok Reservation is provided in figure 1. While this is an effort of the IPT, which includes Redwood National Park but not Redwood State Park, maps of the park depict the entire Redwood National and State Park area because this larger area is used for park maps, and the public generally understands the larger entity as the park.

The California condor (*Gymnogyps californianus*) is currently listed as endangered under the Endangered Species Act of 1973 (ESA), as amended (16 United States Code [USC] 1531 et seq.), except for where it is listed as nonessential experimental population (NEP) in northern Arizona/Utah. If California condors were to be released at the park, USFWS is considering whether to designate the reintroduced condor population as a NEP under section 10(j) of the ESA. Designating the population as experimental would allow USFWS to tailor ESA protections for the population to increase stakeholder support, while still achieving a conservation benefit for the species. Not designating the reintroduced population as experimental would mean the reintroduced population would be treated as endangered under the ESA. See chapter 2 for further discussion of special rule designations under the ESA.

Restoring the California condor would involve establishing release facilities and implementing a program to release, monitor, and manage condors in the Pacific Northwest. The condor restoration program also would include interpretation activities with other stakeholders such as state, federal, community, and tribal interests, and ongoing outreach regarding the use of nonlead ammunition and threats of lead ammunition to condors. Required facilities for this project would include office and equipment storage space, a condor field release/management facility, and feeding sites outside the release/management facility. The release/management facility would provide a flight pen, a holding area for condors, a trapping mechanism, an area to observe captive condors and store gear, solar panels, water pools, a carcass box, workspace, housing for staff, an aversion/conditioning power pole, and a removable medical treatment unit. Office and off-site storage facilities would include office space to house field and support personnel, longer-term equipment storage, areas for equipment repair and maintenance, a walk-in freezer for carcass storage, and potentially space for temporary isolation of condors under treatment. A monitoring program would be developed, as detailed in “Chapter 2: Alternatives.” The program would also include baiting with carrion to provide food and augment foraging patterns of newly released condors, which would help them learn the area and get accustomed to interactions with the flock. Baiting would also act as a lure to allow capture of condors for health assessments and tracking/transmitter equipment maintenance. The project may also require project staff to climb trees to maintain field-monitoring equipment and conduct health assessments of chicks in tree cavity nests or enter nests to evacuate chicks for emergency medical attention.

California condors were once widely distributed and locally abundant from southern British Columbia to Baja California, Mexico. Lewis and Clark and many other early explorers and naturalists who visited the Pacific Northwest wrote about them in their journals (D’Elia and Haig 2013). Observations became more infrequent in the latter half of the 1800s, and by the early 1900s, condors had disappeared from the Pacific

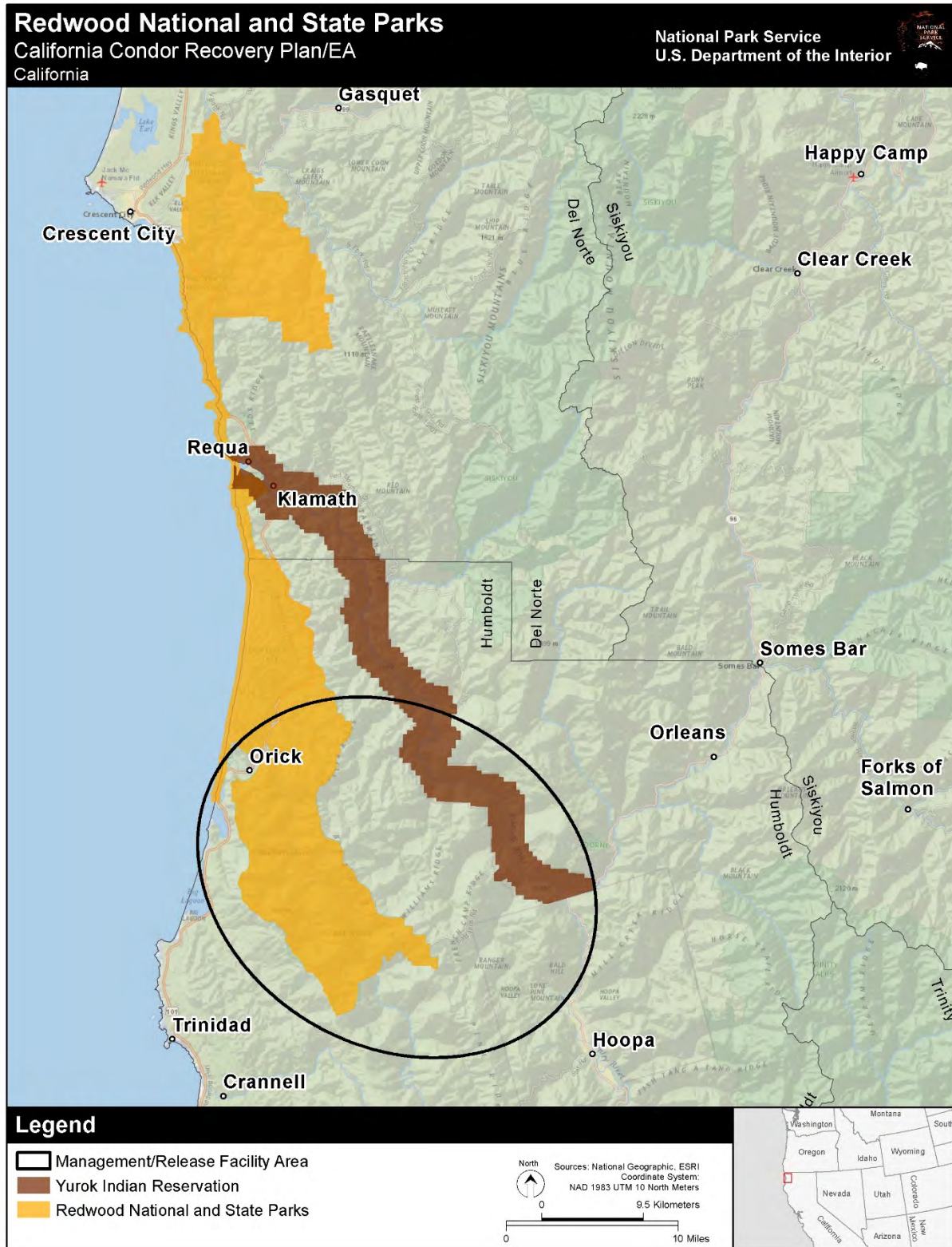


FIGURE 1: REDWOOD NATIONAL AND STATE PARKS AND YUROK RESERVATION BOUNDARIES

Northwest region, most likely because of secondary poisoning, indiscriminate shooting, and overharvesting of their primary food sources. Condor numbers continued to decline in the 1900s, and by the middle of the century, only about 150 remained, all in the mountains of southern California. Following its endangered listing under the ESA in 1967 and continued population declines, captive breeding efforts were initiated, and by 1987, all condors were taken into captivity to save the species from extinction. The population has now grown to more than 450 condors; approximately 290 of these condors live in the wild, distributed among 4 reintroduced population centers in the southern half of the species' historical range.

The condor plays an integral role in the Yurok Tribe's worldview, and as the condor population slowly rebuilds throughout its historical range, condors act as a powerful symbol to the Yurok Tribe, which is simultaneously taking steps to revive its own culture. According to Yurok Tribal tradition, the condor was one of the first peoples of the world and remains a crucial and significant part of the highest of Yurok Tribal ceremonies to renew the world. The condor also fulfills a renewal and healing role for several of the Yurok's neighboring tribes, including the Hupa, Karuk, Wiyot, and Tolowa Dee-ni'. Throughout the Pacific Northwest tribes, the condor has served variously as healer, protector, guide, and creation force.

This EA has been prepared in accordance with NEPA and its implementing regulations (40 Code of Federal Regulations [CFR] 1500–1508). This EA analyzes the impacts that could result from taking no action and the impacts that could result under the two action alternatives.

PURPOSE OF AND NEED FOR ACTION

The purpose of this action is to further the recovery of the California condor by establishing a new population in the species' historical range in the Pacific Northwest through captive releases at the park, while simultaneously reintroducing condors to Yurok Ancestral Territory (YAT).

Restoring condors to the park would also contribute to the restoration of the redwood ecosystem in the park in accordance with the 1968 and 1978 legislation establishing and expanding the park. It would also fulfill directives of the Constitution of the Yurok Tribe, which requires the Tribal Council to: “[r]estore, enhance, and manage the tribal fishery, tribal water rights, tribal forests, and all other natural resources” (Yurok Tribe 1993). The aforementioned integration of condors with the Yurok worldview is critical to understanding that restoration of the condor to this region not only furthers restoration goals relative to park/tribal natural resources, but also restores part of the Yurok Tribal landscape, while supporting Tribal efforts to preserve and promote Yurok culture.

USFWS completed a recovery plan for the California condor in 1974 and revised the plan in 1980, 1984, and 1996 (USFWS 1974, 1979, 1984, 1996). To downlist the species from endangered to threatened, the latest recovery plan calls for reestablishing multiple self-sustaining populations of condors in the wild. Currently, all reintroduction efforts for the California condor have been concentrated in the southern half of the species' historical range. Establishment of a self-sustaining population in the Pacific Northwest would contribute to condor recovery by increasing the global population of condors and their geographic distribution. USFWS is considering designating the reintroduced population as a NEP under section 10(j) of the ESA. This designation would reduce the regulatory impact of reintroducing a federally listed species in a specific geographic area (proposed 10(j) boundary), while still contributing to the species' conservation.

PROJECT AREA

The proposed project area consists of the proposed 10(j) boundary, including Oregon, northern California (north of State Route 20), and northwestern Nevada (north of Interstate 80 and west of US Highway 95)

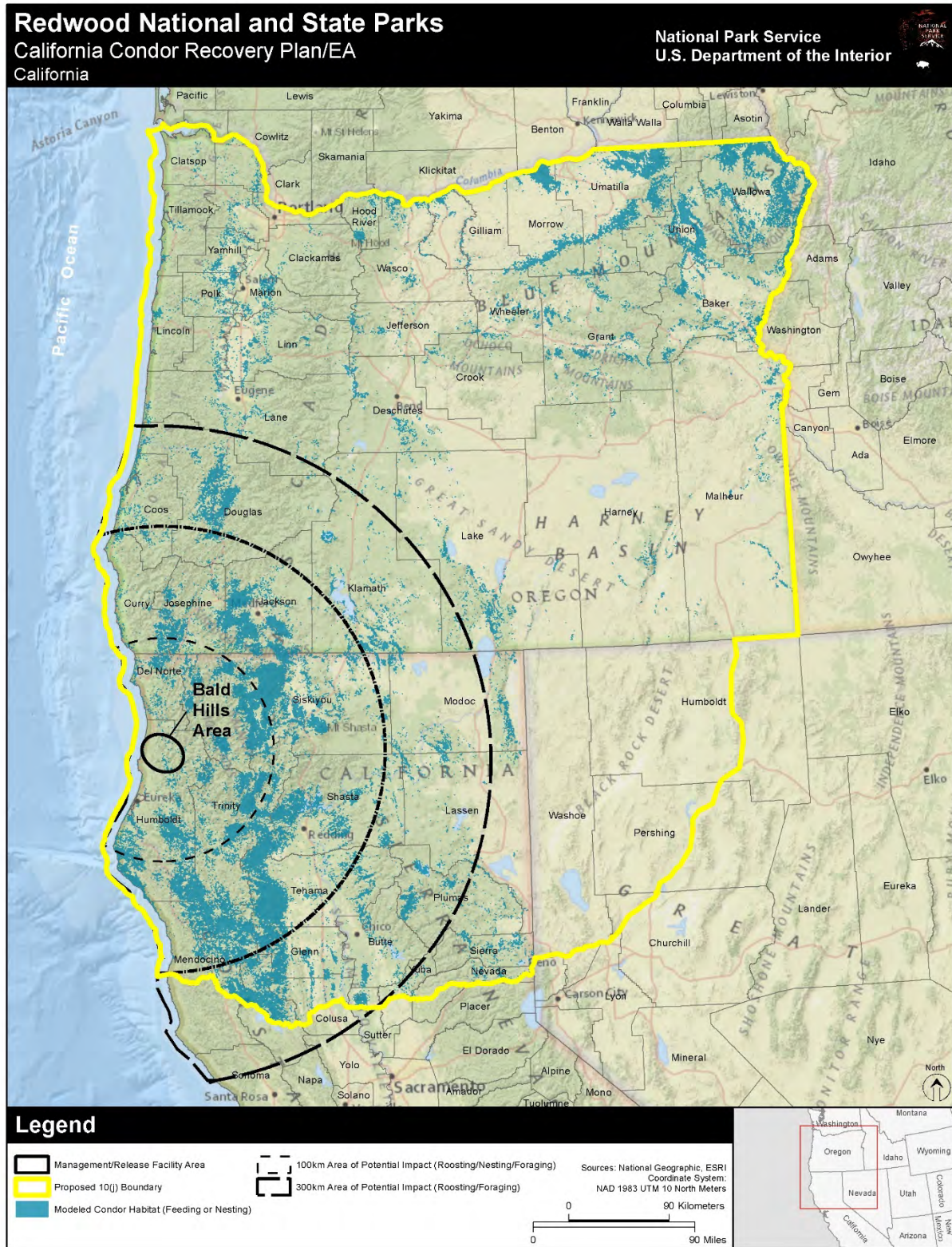
as identified in action alternative 1 in chapter 2. The boundary was created based on the species' historical range. The western boundary is the Submerged Lands Act boundary line. The southern boundary is formed by an east-west line from the Submerged Lands Act boundary to Hare Creek; Hare Creek from the Pacific Ocean to its junction with California State Route 1; north to the junction of State Route 1 and State Route 20; east along California State Route 20 to where it meets Interstate 80; and Interstate 80 from its intersection with California State Route 20 to US Highway 95 in Nevada. The eastern boundary of the NEP is US Highway 95 in Nevada to the state boundary of Oregon and then east and north along Oregon's southern and eastern boundaries, respectively. The northern boundary of the NEP is the state boundary of Oregon. All highway boundaries include the entire highway right-of-way. A map of this area is shown in figure 2.

Within the proposed project area, the analysis of impacts was focused within 186 miles (300 kilometers [km]) of the proposed release site based on condor flight movement data collected from other condor release sites in California. The data used to derive the 186-mile (300-km) radius for condor foraging area were compiled as part of an ongoing unpublished study looking at potential condor movement pathways at the proposed park release/management facility (USFWS, D'Elia pers. comm. 2017a). Raw global positioning system (GPS) location data for all California condors equipped with global system for mobile communications (GSM)/GPS transmitters were downloaded from the southern and central California flocks. This included occurrence data from July 2013 to May 2017 for 75 individual condors: 29 from central California release sites (1,939,737 GPS points) and 46 from the southern California release sites (3,453,959 GPS points). The occurrence data also included juveniles and adults (breeding and non-breeding) of both sexes. GSM/GPS transmitters recorded location, altitude, and accuracy data every 2 to 30 minutes and transmitted these data to a GSM network or Code-Division Multiple Access network. Raw GPS data were filtered to include only those points with reliable GPS fixes and that likely represented condors in flight based on flight speeds. Points located offshore were removed. Of the millions of occurrence points collected over multiple years, only one condor flew outside the 186 miles (300 km) distance, and this flight only occurred over one day. The maximum distance recorded from the release site on that day was 193 miles (311 km). More than 98% of all occurrence points were within 124 miles (200 km) of their release site (USFWS, D'Elia pers. comm. 2017a).

Furthermore, the analysis of impacts related to monitoring condor nests was limited to 62 miles (100 km)), based on condor nest location information from other condor release sites. In summary, the majority of condor movements are expected to be within this 186-mile (300-km) radius. While larger movements may occur, these movements are likely to be infrequent and are anticipated to be within the proposed 10(j) boundary over the foreseeable future (20 years), although there may be some rare instances during that time when individuals take exceptional flights beyond that boundary. The 62-mile (100-km) and 186-mile (300-km) areas of potential impact are shown in figure 2, along with the areas likely to be used by condors for feeding and nesting from habitat modeling conducted by D'Elia et al. (2015). The 124-mile (200-km) buffer is also shown for reference. "Chapter 3: Affected Environment" provides additional information on the assessment of impacts within each of these areas.

RELATIONSHIP TO OTHER PLANS OR AGREEMENTS

The 2000 *General Management Plan for Redwood National and State Parks, Humboldt and Del Norte Counties, California* (NPS 2000) describes the purpose and significance of the park, details the park's goals, and stresses the protection of the park's resources and values while providing visitors with a variety of opportunities to enjoy the park's natural and cultural resources. Reintroduction of the condor into the park and YAT is consistent with the general management plan's strategy to "restore and maintain the Redwood National and State Parks ecosystems as they would have evolved without human influences since 1850 and perpetuate ongoing natural processes."



*Modeled condor habitat (feeding or nesting) from D'Elia et al. 2015

FIGURE 2: PROJECT AREA

Work toward reintroduction of condors in the region is directly included in the 2014 *California Condor Memorandum of Understanding*, signed by the Yurok Tribe, USFWS, NPS, California Department of Parks and Recreation, and Ventana Wildlife Society (USFWS 2014). It is also included in the 2016 *California Condor Memorandum of Understanding* (USFWS 2016a) (signed by same agencies that signed the 2014 memorandum plus the US Forest Service [USFS], Bureau of Land Management [BLM], California Department of Fish and Wildlife [CDFW], Oregon Department of Fish and Wildlife, Oregon Zoo, Sequoia Park Zoo, Oakland Zoo, Pacific Gas & Electric [PG&E], Pacific Power, Green Diamond Resource Company, and Hells Canyon Preservation Council). Both agreements provide a framework for cooperation among the signatory parties to support proactive conservation efforts for the California condor in northern California and indicate that recovery of the species to its full historical range would be beneficial to the recovery efforts of the species as a whole. These agreements also constitute wildlife agency support at the federal and state levels as well as coordination with many key members of the current California condor recovery program.

In addition, the goals of *The Cooperative Agreement between the United States Department of the Interior and the Yurok Tribe for the Cooperative Management of Tribal and Federal Lands and Resources in the Klamath River Basin of California* are also met through the reintroduction of the California condor, a trust species (USDI 2006). This agreement was formed to coordinate and cooperatively manage federal and tribal lands in the Klamath Basin to (1) further the existing Trust relationship between the US Department of the Interior and the Yurok Tribe; (2) develop programs to manage natural resources to provide long-term benefits to the Yurok Tribe, local communities, and the general public; and (3) improve the condition of the Klamath Basin's natural resources.

The primary objective of the USFWS's 1996 *California Condor Recovery Plan* is to reclassify the California condor from endangered to threatened status (USFWS 1996). The plan identifies long-term population goals, a strategy for recovery, and criteria for reclassification. Recovery efforts outlined in this EA work toward Action Priority #22 by "establish(ing) release sites in California for California condors" and Action Priority #23 by "prepar(ing) release sites based on protocols resulting from the Andean condor experimental release results and information learned from the three recent California condor releases." This EA analyzes alternatives designed to aid the recovery of the California condor and restore the population throughout its historical range.

ISSUES AND IMPACT TOPICS

Issues are environmental or cultural problems, concerns, and opportunities that may occur if any of the alternatives are implemented. These issues may describe concerns or obstacles to achieving the purpose of the action or that may result from the actions under consideration. To better understand the environmental impacts of the alternatives being considered, NPS organizes the discussions of affected environment and environmental consequences by "impact topics," which are headings that represent the affected resources associated with the issues that are analyzed in detail.

IMPACT TOPICS ANALYZED IN THIS ENVIRONMENTAL ASSESSMENT

Issues and impact topics for this EA were developed and refined during internal, agency, and public scoping. Impact topics for analysis in this EA that capture the issues discussed during scoping are provided below.

CALIFORNIA CONDOR

As noted in the "Introduction, Background, and Proposed Action" section, the California condor was once widespread in northern California and in the proposed reintroduction region. Reintroduction of the condor

to this area would contribute to the recovery effort for the species, increase its current range, and return it to the landscape, while providing benefits to the tribes in the area by returning this powerful species to the land.

Along with the beneficial impacts anticipated from the reintroduction of condors, other aspects were considered, such as the potential for impacts on existing release facilities from providing condors to an additional facility. Currently, condors are released each year at other sites in California, Arizona, and Baja California, Mexico, as part of the overall recovery program for this species. An existing population model based on published demographic rates (Bakker et al. 2017) was used to simulate state-wide California condor population growth in California over the next 30 years (2018–2048), assessing scenarios with and without the allocation of some of the available captive-bred individuals to a new geographically disjunct flock (Bakker and Finkelstein 2018, unpublished report). These model simulations demonstrate that allocating captive-bred individuals to a new, geographically disjunct flock, which is expected to have lower survival and reproduction compared to the existing flocks, would reduce the population growth of condors in California. Under the scenarios where the total number of chicks distributed currently remains approximately equal to current levels, this effect would increase as the ratio of releases allocated to the new flock versus the existing flock increases. Model simulations reinforce the importance of increasing captive chick production and releases to the wild. The number of chicks produced in the captive program and released to the wild has been variable over time but continues to drive population growth in the wild because of the high chick and juvenile survivorship attainable in a captive setting and ongoing mortality in the free-flying population, combined with the long generational gap between chick stage and breeding age (approximately six to eight years) in California condors (Finkelstein et al. 2012; Bakker et al. 2017; Bakker and Finkelstein 2018). Because the number of condors released would be determined by these factors, availability of chicks for release was not carried forward as an impact in this EA.

During public scoping and based on other release programs, lead toxicity, secondary poisoning from anticoagulant rodenticides and marine contaminants, such as dichlorodiphenyldichloroethylene (DDE), the environmental breakdown of the pesticide dichlorodiphenyltrichloroethane (DDT) in the environment are concerns when establishing a recovery program. In addition, micro-trash ingestion, habituation to humans, predation (such as mountain lions and black bears as discussed under “Wildlife and Wildlife Habitat” below), shooting, drowning in human-made structures, powerlines, timber operations, and wind turbines can also affect the survival of this species. Additional information on the threats to this species can be found in the *California Condor Recovery Plan* (USFWS 1996) and the five-year review (USFWS 2013). The impacts from these potential threats on any released condors are discussed in this EA.

OTHER SPECIAL-STATUS SPECIES

Section 7 of the ESA requires that all federal agencies consult with USFWS or the National Marine Fisheries Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitats (16 USC 1531 et seq.). The State of California lists threatened and endangered species and species of special concern; the park and Yurok Tribe protect all three categories of species. This EA considers those special-status species that were identified, in conjunction with staff from the IPT, as known to occur in the project area (see figure 2), are either federally or state listed for protection or are of concern to the park or Tribe, and have been ranked as rare by the state natural heritage program (mostly several rare plants). These species were reviewed to identify those that could be affected by the actions proposed in this EA. Impacts could occur either at the release site or elsewhere in the project area where condors would nest or feed, through IPT staff interaction with the condor, or through disturbance from monitoring activities. Appendix A contains the full list of the special-status species considered within the project area where components of the proposed action are expected to occur and summarizes the reasons

for analyzing or dismissing them from detailed analysis. For the purposes of this EA, eight special-status species were retained for further analysis.

- Animals
 - Marbled murrelet (*Brachyramphus marmoratus*)
 - Northern spotted owl (*Strix occidentalis caurina*)
 - Humboldt marten (*Martes caurina humboldtensis*)
 - Western snowy plover (*Charadrius nivosus nivosus*)
- Plants
 - Beach layia (*Layia carnosa*)
 - Beach pea (*Lathyrus japonicus* and *L. littoralis*)
 - Pink sand verbena (*Abronia umbellata* ssp. *breviflora*)
 - Wolf's evening primrose (*Oenothera wolfii*)

Construction and operation of the release/management facility and activities related to subsequent accessing and monitoring future condor nest sites in old-growth trees may affect the marbled murrelet, northern spotted owl, and Humboldt marten. Driving and walking on beaches to monitor condors that could be feeding on beached carcasses or the presence of observers may affect western snowy plovers by disturbing birds nesting in the area and could also negatively affect the four rare coastal plants if they are present.

CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (16 USC 470 et seq.) and its implementing regulations under 36 CFR Part 800 require all federal agencies to consider effects of federal actions on historic properties, including historic structures eligible for or listed in the National Register of Historic Places (national register). The park contains a number of archeological resources and cultural landscapes, including the Lyons Ranches Rural Historic District and the Bald Hills Archeological District. An addition of facilities on the landscape has the potential to affect these designated cultural landscapes. Archeological resources also exist throughout the park, and any ground disturbance from establishment of the facility, fences for adjacent feeding areas, or support facilities has the potential to impact these resources. Cultural resource surveys would need to be conducted to determine locations and extent of any previously unknown or undocumented resources and potential impacts on both cultural landscapes and archeological resources. If archeological resources were identified during construction or while conducting restoration program activities, NPS would consult with the California Office of Historic Preservation in accordance with federal legislation and regulations and NPS policy.

TRIBAL RESOURCES

Condors play a significant role in the spiritual and cultural beliefs of the Yurok Tribe, as well as immediate neighboring tribes and other tribes throughout northern California and the Pacific Northwest. Condor feathers are part of regalia worn by men for Yurok Tribe world renewal ceremonies to help restore balance. Increasing the presence of condors in the forest would provide more feathers for tribesmen to use. All tribal members are free to collect condor feathers once they have molted. Among Pacific Northwest tribes, the condor fulfills many roles, including one of renewal and healing as well as various roles as a healer, protector, guide, or creation force. Establishing a condor restoration program would restore the Yurok Tribe's cultural, spiritual, and ecological relationship with the condor.

SOCIOECONOMICS

Because condors are currently listed as federally endangered under the ESA, “take” prohibitions under section 9 of the law apply, unless otherwise exempted (“take” is defined in chapter 2 in the “Designating the Released Population as Experimental under the Endangered Species Act” section). Activities that have the potential to affect the species would be considered under sections 7 or 10 of the ESA. The reintroduction of condors could potentially affect businesses or landowners who may not be able to maintain normal operations when condors are present without “take” authorization or exemptions. During public scoping, potential impacts on the timber, wind, and energy transmission industries were specifically discussed and are addressed in this EA.

If the condor were designated a NEP under an ESA 10(j) rule, condors within a specified geographic boundary (see figure 2) would not be considered endangered under the ESA, and special rules governing take and consultation requirements would be in effect. These special rules would significantly reduce socioeconomic impacts by exempting most activities within the proposed 10(j) boundary from ESA incidental take prohibitions and eliminating the requirements for most agencies to consult with USFWS under section 7 of the ESA in most situations.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

NEPA and the Council on Environmental Quality (CEQ) regulations direct agencies to prepare NEPA documents that are “concise, clear, and to the point” (1500.2(b)). NEPA reviews should focus on important environmental issues and avoid “amassing needless detail” (1500.1(b)). Furthermore, agencies are directed to discuss nonsignificant issues in only enough detail to show why more study is not warranted (40 CFR 1502.2 and section 4.2(E) of the NPS NEPA handbook). During internal scoping, the IPT reviewed all relevant issues and considered the impacts that could potentially result from the action and connected actions under consideration. In cases where impacts are not anticipated or are expected to be minimal and are not different among alternatives, the impact topics were dismissed from detailed analysis. These topics and the rationale for their dismissal are described below.

AIR QUALITY

Implementation of the proposed action would result in minimal localized emissions and fugitive dust at the park during construction activities; however, they would dissipate quickly. Further, because of the small-scale nature of the building, minimal ground-disturbing activities that result in these types of emissions are expected to occur. No long-term impacts on air quality or air quality-related values are expected. The proposed release/management facility is not expected to produce air emissions while in operation; the only emissions would be from employees traveling to and from the release/management facility and throughout the park to conduct monitoring activities. NPS has determined that emissions from traveling employees would not increase greenhouse gas emissions past a threshold of significance, consistent with section 15064.4 of the California Environmental Quality Act Guidelines. Impacts would be short-term, localized, and not a key issue. Therefore, this topic was dismissed from further analysis.

LAND MANAGEMENT ADJACENT TO THE PARK

Land use surrounding the park includes commercial timber production and ranching operations. Reintroduction of the condor to its historical range could affect activities if land use is restricted because of condor nest occupation and subsequent monitoring. Potential impacts on commercial adjacent land uses are addressed in the “Socioeconomics” section in chapters 3 and 4 and not as a separate issue or impact topic. Therefore, this topic was dismissed from further analysis.

NIGHT SKIES

NPS strives to preserve dark night skies and would “minimize light that emanates from park facilities, and also seek the cooperation of park visitors, neighbors, and local government agencies to prevent or minimize the intrusion of artificial light into the night scene of the ecosystems of parks” (NPS 2006). Because outside lighting would not be part of the proposed release/management facility or necessary during monitoring activities, no night sky issues would occur. Lighting would only be used in emergencies. Therefore, this topic was dismissed from further analysis.

WATER RESOURCES, INCLUDING WETLANDS AND FLOODPLAINS

The Clean Water Act was enacted to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (33 USC 1251 et seq.). While minimal erosion from soil disturbance could occur during construction of the release site when materials are transported, NPS would implement best management practices to minimize any soil disturbance and associated runoff and temporary sedimentation that could result in water quality impacts. The release/management facility is expected to cover an area of approximately 45 by 86 feet (14 to 26 meters) and include mobile facilities. On-site water for the condors would be collected in a water tank during the rainy season. If the rainwater catchment needed to be supplemented, an on-site water tank would be filled by water piped from an off-site location, which would be either an off-site tank or spring box or brought in via a water tanker truck; therefore, no impacts on water resources (e.g., springs) are expected. No known floodplains or wetlands occur in the area of the potential release site. Therefore, this topic was dismissed from further analysis.

SOILS

As described above in the “Water Resources, Including Wetlands and Floodplains” section, soil disturbance from construction would be minimal, and NPS would implement best management practices to minimize further adverse effects. Conducting restoration monitoring activities, such as tracking condors and nest monitoring, would require release/management facility staff to travel by motorized vehicle on established roads and, if conditions require, to hike on trails to prevent resource damage. During the rainy season (October to May), release/management facility staff would coordinate with park staff to ensure further erosion does not occur in areas of the park where roads are closed. Some components of the release/management facility could be moveable facilities and would not require ground disturbance or require only minimal disturbance to anchor them to the ground. Ground disturbance would occur for the installation of the perimeter fence, but the installation of fencing would affect a small area, likely less than an acre. Release facility staff may be required to walk in, rather than drive, to prevent resource damage. Other components of the restoration program, including interpretation and outreach, would not affect soils. Therefore, this topic was dismissed from further analysis.

WILDLIFE AND WILDLIFE HABITAT

NPS strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of native animal populations (NPS 2006). Potential impacts on other wildlife in the area could result from the use of bait at and near the facility to attract condors to the area. Species that may be attracted to the area with the potential to affect condors in the facility include bears and mountain lions.

The highest densities of black bears (bears per unit area) in the state occur in northwestern California (Matthews et al. 2008; NPS 2015a). Between 2000 and 2012, visitors and park staff reported between 76 and 164 (115 average) individual bears in the park per year. The proportion of the park’s bear population that these observations represent is currently unknown; however, it is assumed, based on the

observations reported by park staff and visitors, that the bear population in the parks is healthy. Black bears may be seen in virtually all habitat types of the parks, including forests, prairies, and near the beaches, although conifer forests and oak woodlands are their preferred habitats (NPS 2015a).

Between 2000 and 2012, visitors and park staff also reported between 7 and 37 (average 27) mountain lions in the park each year; however, actual population estimates are lacking and the proportion of the park's lion population that these observations represent is currently unknown. It is assumed, based on the number of observations reported by park staff and visitors, that the mountain lion population in the park is healthy. Mountain lions occur throughout the park and may be seen in virtually all habitat types, including forests, prairies, and near the beaches, although mountain lions prefer areas with overhead cover.

Other species (e.g., bobcats, striped skunks, turkey vultures, coyotes, raccoons, gray foxes, and ravens) could be attracted to the release/management facility when baiting occurs. While the release/management facility would be designed to keep these animals out and discourage repeat visits, they may still be attracted to the bait, which could result in potential conflicts with condors (condors have been killed by mountain lions around bait stations at other sites) or with staff at the facility. Protocols for condor feeding would be designed to minimize the attraction of such predators and scavengers. A predator exclusion fence would work to keep unwanted animals out of the baiting facility. Pinnacles National Park installed an electric predator exclusion fence around its condor bait station that is powered by a solar panel and attached to an electric fence battery. The fence measures 5 feet high (1.5 meters) with two electric strands along the top. The fence features a 3-foot (1-meter) apron along the ground to prevent animals from digging under it as well as a third strand of electric wire 1 foot (0.3 meter) from the ground. If project staff observed evidence of mammalian predators within protected management areas, they would check that all barriers are in place and functioning and consider additional exclusion options. The installation of a similar system at the park would protect the condors from predators and protect the bait from outside animals. Management actions are not directly expected to affect these predators at the release site. Should bears become an issue, they would be managed according to the park's existing bear management guidelines. Impacts from these species on condors are discussed under "California Condor." Because these species would not be directly affected, this topic was dismissed from further analysis.

OTHER SPECIAL-STATUS SPECIES

Special-status species that are present in the park and the project area shown in figure 2 but would not be affected by any action under consideration are not addressed in this EA. Appendix A lists all special-status species that were considered for analysis and provides information as to why certain species were not included. Also, protected marine mammals (e.g., sperm whale [*Physeter microcephalus*], blue whale [*Balaenoptera musculus*], humpback whale [*Megaptera novaeangliae*], fin whale [*Balaenoptera physalus*], and sei whale [*Balaenoptera borealis*]), marine reptiles (e.g., green sea turtle [*Chelonia mydas*], loggerhead sea turtle [*Caretta caretta*], and leatherback sea turtle [*Dermochelys coriacea*]), or fish (e.g., tidewater goby [*Eucyclogobius newberryi*], bull trout [*Salvelinus confluentus*], steelhead [*Oncorhynchus mykiss*], Chinook salmon [*Oncorhynchus tshawytscha*], and coho salmon [*Oncorhynchus kisutch*]) were not considered for analysis. Although these species occur in the park, no adverse impacts on these species or their habitat are anticipated in and around the park because of the condor restoration program. The condor's ability to open the tough hides of marine mammal carcasses may facilitate breakdown of carcasses, allowing more efficient degradation and decomposition. This process may reduce the time of persistence of the carcass in the environment and may in turn reduce potential disease transmission opportunities, thereby providing a potential benefit to protected populations. For these reasons, this topic was dismissed from further analysis. Further information on why specific species were dismissed are described below.

Mammals

Appendix A lists 24 mammal species with a special status at the federal and/or state level. These mammals may be found either near the proposed release sites or in the greater area (186-mile [300-km] radius) where California condors are expected to feed, roost, and nest during the lifespan of the project. Only three species may interact with condors and may be affected by the proposed actions—the red tree vole (*Arborimus longicaudus*), Sonoma tree vole (*Arborimus pomo*) (also called the California red tree mouse), and the Pacific fisher (*Pekania pennanti*). The Humboldt marten was also identified as potentially interacting with condors and has been carried forward for detailed analysis.

Both voles are arboreal and nest in mature, mixed, and old-growth forests. The home range of an individual vole can consist of one tree, and survey protocols exist to determine potential vole habitat and active nest trees. USFS and BLM provide protocols describing survey methods (USFS and BLM 2012). To minimize any impacts on red tree voles, trees would be evaluated for both vole nests before climbing for condor nest monitoring purposes. No other condor restoration activities are expected to affect the red tree and Sonoma tree vole; therefore, these species have been retained for further analysis.

Although the Pacific fisher (West Coast distinct population segment) was recently withdrawn as a proposed threatened species, it is a species of special concern in California and a sensitive species in the critical category in Oregon. Fishers are sighted every year in the park, and various surveys over the past decades routinely detected fishers. Pacific fishers are likely to share some of the same forest habitat with the California condor when condors choose old-growth trees as nest sites. The Pacific fisher uses mature and late successional forest habitats with multilayers and dense canopy closure, large diameter trees, and snags. These complex key habitats and structural components provide the most suitable fisher habitat because they provide abundant potential den sites and preferred prey species. Female fishers select natural cavities or cavities excavated by woodpeckers, high in large, live trees or snags, for natal and maternal den sites. All fishers select large structures for resting. In addition to tree and snag cavities, rest sites can include abandoned raptor nests, mistletoe and witch's broom clumps, hollow logs, and rock piles. Rest sites are rarely reused, which means that many structures must be well distributed throughout a fisher's home range. Trees would be evaluated for potential fisher dens before condor nest monitoring occurs. No other condor restoration activity is expected to affect the Pacific fisher; therefore, it has not been retained for further analysis.

Amphibians and Reptiles

Four species of reptiles and 16 species of amphibians are listed in appendix A. These species have a special status either at the federal and/or state level (Oregon or California). Only two, the western toad (*Anaxyrus boreas*) and the western rattlesnake (*Crotalus oreganus*) may inhabit portions of the area near the proposed release site. All others may be found in the range where the California condor is expected to feed, roost, and nest during the foreseeable future (approximately 20 years) of the project. However, none of these species is expected to interact with, or be affected by the release actions and/or presence of the California condor over the life of the project; therefore, they have not been retained for further impact analysis.

Birds

The large area (in a radius of 186 miles [300 km] from the proposed release site) that condors would likely use for roosting and foraging includes many special-status birds (see appendix A). Besides the 3 birds described in the section above (marbled murrelet, northern spotted owl, and western snowy plover), 45 additional bird species were determined to potentially nest, rest, and/or forage in the area that the California condor population is likely to occupy. However, none of these birds is expected to interact

with, or be affected by the release actions and presence of the California condor over the life of the project; therefore, they have not been retained for further impact analysis.

The golden eagle (*Aquila chrysaetos*) was evaluated in depth for potential impacts, because, unlike other bird species evaluated, there is some overlap of golden eagle nesting habitat with nesting features used by California condors. Both use large trees and cliffs as nest sites. In addition, both scavenge on carcasses. However, golden eagles nest in a wider variety of sites, including cliffs, trees, ground, riverbanks, and human-made structures. Full-grown California condors are sufficiently large that other birds do not normally kill them, the exception being the golden eagle. Eggs and nestlings face significant threats from the common raven and golden eagle (Finklestein et al. 2015). Golden eagles have killed condors in prior reintroduction efforts (NPS, USFWS, and Ventana 2002). To reduce the risk to young newly released condors, the condor release would occur in the fall after the breeding period for golden eagles has ended and when the eagles are less territorial.

Golden eagles can be seen interacting with condors at feeding sites. The California condor is usually the dominant bird at feeding sites, but when present, golden eagles typically dominate over most avian scavengers at nest sites and carcasses, including the condor. Although the condor weighs about twice as much as the eagle, the talons of the eagle are a hazard to condors and could cause injury, thus condors usually avoid interacting with golden eagles. At feeding sites, condors typically wait for the eagles to finish eating at the carcass and usually do not begin feeding until the eagles leave. Since eagles are dominant, there is no evidence that condors are affecting the food intake of golden eagles. In addition to their dominance at carcass sites, with the supplemental feeding of condors and the generally abundant sources of carcasses over the landscape, enough food should be available to satisfy the golden eagle feeding requirements. Because minimal conflict between these two species appears when they use the same habitat, golden eagles have not been retained for further impact analysis.

Insects

Three listed species of insects, the Fender's blue butterfly (*Icaricia icarioides fenderi*), the mardon skipper (*Polites mardon*), and the Oregon silverspot butterfly (*Speyeria zerene hippolyta*) may be present outside the vicinity (>0.5 mile) of the project area but are not expected to be affected by the actions taken in this plan.

Plants

Condor monitoring activities on the California and Oregon coasts have the potential to affect four coastal plants when condors feed on marine mammal carcasses. These species are described in the previous section. Appendix A includes an additional 130 species of plants that could be found in the project area where condors are expected to roost, forage, and nest. These plants are either federally listed as endangered, threatened, proposed, or species of concern; and/or state-listed as endangered, threatened, or candidate. Only 3 of the 130 plants may be found within 0.5 mile of the proposed release site (appendix A). However, these 3 species of plants do not occur in the grassland or roadside habitat types present at the proposed release/management facility. To ensure no impacts on these species during the construction of release/management facility, park botanists would conduct rare plant surveys prior to any construction at the proposed release sites. Therefore, no impact is expected on these species because (1) they are unlikely to occur, and (2) alternative routes and mitigation measures would be put in place to prevent trampling or loss of individuals. Similarly, if condors were monitored or retrieved in areas where endangered, threatened, or candidate or special concern plants are known to occur, specific operational protocols would be carefully followed (e.g., driving on established roads or tracks and staying on trails where feasible). Therefore, the release and presence of the California condor is not expected to affect any of these species over the life of the project, and they have not been retained for further impact analysis.

Plants outside the vicinity (0.5 mile) of the proposed release sites that are considered sensitive species in Oregon and species of special concern in California are not included in appendix A. Both the US Department of Agriculture and CDFW provide more information regarding these plants (USDA 2014; CDFW 2017). All project activities would take measures to avoid these species if they are found in the area; therefore, no impacts on these species are expected.

INDIAN TRUST RESOURCES

In accordance with the US Department of the Interior's Environmental Compliance Memorandum 97-2, NPS must ensure that it explicitly addresses any anticipated effects on Indian trust resources in an environmental compliance document. If any effects are identified, NPS must consult with the affected tribe(s) on a government-to-government basis with respect to the impact from the proposed project or action. Under USFWS Native American Policy and Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments," USFWS must consult and collaborate with tribal governments on proposed actions that affect tribal communities. Further, pursuant to Executive Order 3335, USFWS must work with Indian Tribes to ensure, to the extent possible, that trust and restricted fee lands, trust resources, and treaty and similarly recognized rights are protected. However, if the project or action is expected to have either a discountable impact or no impact on any Indian trust resources, the environmental compliance document must state the reason for dismissal. Any issues related to Indian Trust resources are addressed under "Tribal Resources." Therefore, this topic was dismissed from further analysis.

MUSEUM COLLECTIONS

California condor restoration activities would not include actions that would affect the park's museum collections; therefore, this topic was dismissed from further analysis.

SOUNDSCAPES

An important component of the NPS mission is to preserve the natural soundscape associated with national park units. Temporary impacts would occur during construction, which would likely have minimal impacts because of the small scale of development required for the condor program. Operation of the proposed facility and restoration program activities, such as bird and nest monitoring and tree climbing, are not anticipated to generate noise levels that would affect soundscapes. Therefore, this topic was dismissed from further analysis.

VEGETATION AND FIRE MANAGEMENT

Invasive plant species can be fast growing, adaptable, and difficult to completely remove from a landscape once established. Without management, some invasive plant species can harm the ecosystem and threaten the availability of resources. Potential impacts under the proposed action include the introduction/expansion of invasive species by vehicle traffic during construction and soil exposure. However, proper decontamination of construction machinery would minimize these impacts. NPS would ensure construction machinery is properly decontaminated before entering the park. Establishing a release/management facility could include removing shrubs and other vegetation as needed, but this removal would be short term because vegetation would regrow after construction and during the operation of the release/management facility. In addition, the area under consideration for development is already disturbed and would require little vegetation removal. Nest monitoring, including installing nest cameras and tree climbing, would not require removal of vegetation, and impacts would be minimal and short term. If Douglas fir were encroaching on the prairies where the release/management facility is installed, the trees could be removed via cutting. NPS would ensure that all cutting follows the guidelines outlined

in the 1992 *Bald Hills Vegetation Management Plan* (NPS 1992). All other management of invasive and nonnative plants would follow guidelines outlined in the 1994 *Exotic Plant Management Plan and Environmental Assessment* (USDI 1994) and implemented in coordination with the condor restoration program.

Fire management in the park is conducted to conserve and restore the natural landscape and protect resources. NPS is responsible for fire management in the park through a “Service First” agreement with the Six Rivers National Forest (USFS 2018). By collaborating with Six Rivers National Forest and additional partnering agencies, including the California Department of Parks and Recreation and the Yurok Tribe, NPS would ensure that construction and operation of the proposed release/management facility would meet the guidelines outlined in this plan by establishing defensible space to slow or stop a fire surrounding the release/management facility. Fuel reduction activities would be conducted during a time when the release/management facility is free of birds; therefore, fire management activities would not affect the restoration program nor would the restoration program hinder the implementation of fire management activities. An emergency evacuation plan for the release/management facility would be developed to ensure the safety of employees, volunteers, and wildlife. For these reasons, vegetation and fire management were dismissed from further analysis.

VIEWSHEDS

The park’s scenery and scenic features are included among the resources and values to be protected and conserved unimpaired for enjoyment by current and future generations. Effects on viewsheds resulting from the establishment of a release/management facility and operation of the condor restoration program would be related to impacts on cultural landscapes and are therefore addressed under that topic. Therefore, the topic of viewsheds was dismissed from further analysis.

VISITOR AND EMPLOYEE SAFETY

Restoration of the condor to its historical range may increase the possibility of visitors seeing condors in the park, stopping in the road to view them, and causing traffic jams. The park would address traffic stopped to view condors in a manner similar to how it manages traffic in other areas of the park.

Construction of the release/management facility would be located away from areas of visitor use for the safety of visitors and staff. Sufficient ventilation and lighting would be constructed to provide employees with an environment conducive to observation and trapping of condors. Protocols would be established to ensure the safety of employees during program activities such as baiting, when carcasses are being proffered to condors and large predators would be attracted to the site. Monitoring activities would also adhere to appropriate safety protocols as outlined in the condor restoration program. Therefore, this topic was dismissed from further analysis.

VISITOR USE AND EXPERIENCE

Providing for visitor enjoyment is one of NPS’s basic purposes (54 USC 100101(a)). The park provides visitors with outdoor recreation, wildlife viewing, and opportunities to observe one of the largest remaining contiguous stands of ancient coastal redwood forest. Any potential release/management facility locations evaluated would be in areas with low to no visitor use. The release/management facility and surrounding area would be designated as research areas and closed to the public. Release/management facility would be sited in an area of low visitor use; however, visitation could increase in other areas of the park as visitors look for condors. This visitation is expected to be dispersed and would not adversely affect the visitor experience. Nesting condors and nest monitoring by condor biologists may temporarily cause trail closures, but these closures are not expected to have more than a minimal impact. In addition

to closed areas, beneficial impacts would occur from providing increased interpretation of condors and condor restoration in the park and on tribal lands, as well as in other parks and refuges. Interpretive programs underway (e.g., nonlead ammunition outreach) would continue. The NPS's 2015 Visitor Survey Card Data Report surveyed a random number of visitors from August 9–18, 2015, and asked the visitors to rate their park experiences on a scale of 1 to 5 with 1 being very poor and 5 being very good (NPS 2015c). A satisfaction measure combines the percentages of total responses that were “very good” and “good” and averages the numerical score the visitor provided. The recreation portion of the survey was divided into three categories: Learning about Nature, History, or Culture; Outdoor Recreation; and Combined Recreational Opportunities, which combined the two previous categories. Visitors reported a satisfaction measure of 99% in the Combined Recreational Opportunities category. Reestablishing a viable condor population of condors in the Pacific Northwest could attract visitors to the park who are interested in the opportunity to view condors as part of their park experience and would continue to provide beneficial impacts on visitor use and experience. For these reasons, this topic was dismissed from further analysis.

ENVIRONMENTAL JUSTICE

Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-income Populations,” requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. An average of 80% of the members of the Yurok Tribe Reservation are below the poverty line and face the challenges of constructing new community facilities and creating sustainable economic development (Yurok Tribe 2017a). Restoration of the condor supports the Yurok Tribe's cultural value of the species and would enrich tribal, cultural, and personal identity. Disproportionate health or environmental effects on minorities or low-income populations or communities as defined in the US Environmental Protection Agency's *Environmental Justice Guidance* (USEPA 1998) would not occur from the establishment of a release/management facility and restoration program under the action alternatives. The facility would not be near nor would it negatively affect low-income or minority communities; the reestablishment of the California condor would have only beneficial impacts on the Yurok Tribe. Therefore, this topic was dismissed from further analysis.

GROWTH-INDUCING IMPACTS

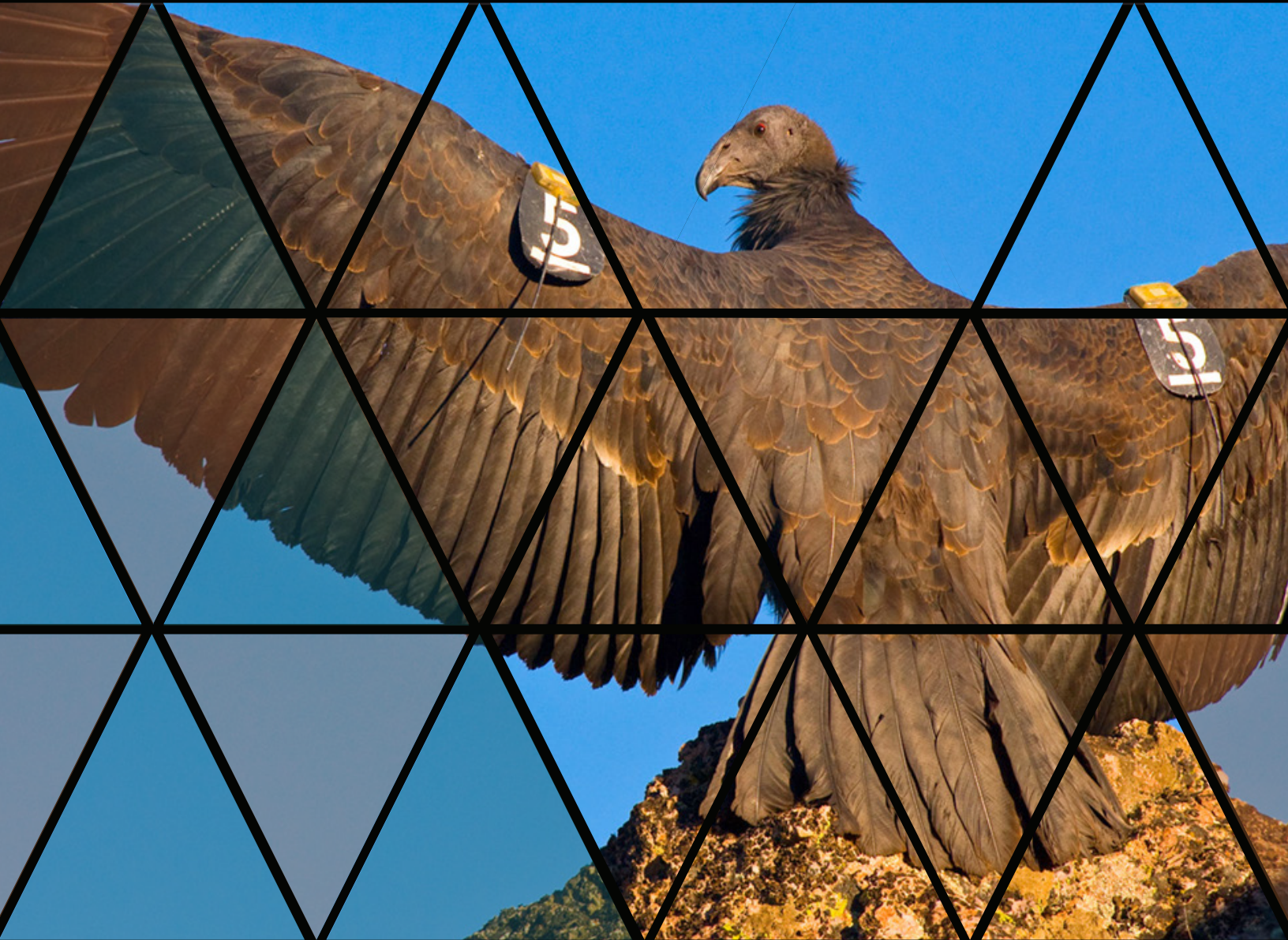
Section 15126.2(d) of the California Environmental Quality Act Guidelines requires the consideration of ways in which the proposed project could directly or indirectly foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The proposed project would not foster economic or population growth, nor construct additional housing in the surrounding environment. Therefore, this topic was dismissed from further analysis.

NEXT STEPS IN THE PLANNING PROCESS

Following the publication of this EA, the public is invited to submit their comments on the document. If the analysis and interagency review of the proposed reintroduction program is found to have no significant impact on the quality of the environment, a Finding of No Significant Impact (FONSI) will be published. If one of the action alternatives is selected, the FONSI will include mitigation measures and implementation provisions, such as continuance of the reintroduction program pending funding. If the analysis and interagency review of the proposed condor restoration program is found to have a significant impact on the quality of the environment, an environmental impact statement may be drafted.

CHAPTER 2

Alternatives



CHAPTER 2: ALTERNATIVES

INTRODUCTION

This chapter describes alternatives for establishing a California condor restoration program and release/management facility in the park and YAT, consistent with the purpose and need for the proposed action. NPS, USFWS, and the Yurok Tribe developed alternatives that address issues with adding a release site inside the park; implementing a condor restoration program; establishing a NEP (or not); operating nest monitoring activities and overall condor behavior; and promoting recovery of the condor. The EA includes three alternatives: the no-action alternative and two action alternatives. The action alternatives present a range of reasonable and feasible approaches that meet the purpose of, and need for, action (table 1). This chapter also discusses alternatives that were initially considered but not carried forward for detailed analysis, identifies the IPT preferred alternative, and lists mitigation measures for the alternatives.

NO-ACTION ALTERNATIVE

The no-action alternative describes the continuation of current management for the California condor. The wild population, ranging from central California to Baja, Mexico, and east to Arizona and Utah, would continue to be managed under the California condor recovery program. A condor restoration program and release/management facility would not be established in the park and YAT, and no action would be taken to restore the condor to northern California through this program. The no-action alternative provides a basis for comparing the management direction and environmental consequences of the action alternatives.

ACTION ALTERNATIVE 1 (PREFERRED ALTERNATIVE)

Under action alternative 1, a condor restoration program would be implemented and facilities for the program would be established in the park and YAT. The action would consist of designating the reintroduced population as a NEP, developing program infrastructure, releasing condors to the wild, and monitoring and managing the released population in a manner that promotes recovery of the species while minimizing impacts on landowners and stakeholders in the region.

DESIGNATING THE RELEASED POPULATION AS EXPERIMENTAL UNDER THE ENDANGERED SPECIES ACT

Under action alternative 1, USFWS would designate the released population as a nonessential experimental population (NEP). An experimental population is a special designation under section 10(j) of the ESA that can be applied to a population of a threatened or endangered species prior to reestablishing it in an unoccupied portion of its former range. An experimental population designation allows USFWS to customize protective regulations to reduce impacts on stakeholders while ensuring that the restoration is likely to be successful and will benefit the conservation of the species. A map of the geographic extent of the proposed 10(j) boundary for the NEP is shown in figure 3.



FIGURE 3: PROPOSED NONESSENTIAL EXPERIMENTAL POPULATION FOR THE CALIFORNIA CONDOR IN THE PACIFIC NORTHWEST

Based on movement data from other released populations in central and southern California, the released population is expected to remain in the proposed 10(j) boundary for the foreseeable future (approximately 20 years) because of the geographic extent of the designation. A few condors may occasionally move beyond the proposed 10(j) boundary; however, based on data from other release areas, regular movements and breeding activity of condors released in the park are expected to be within the 10(j) boundary. Condors would be managed under special protective regulations inside the proposed 10(j) boundary. If the proposed NEP rule is finalized, all unavoidable and unintentional take of the NEP would be exempted (with an exception for disturbance around active nests; see below). “Take” under the ESA means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Exempting incidental take means that throughout the California condor proposed 10(j) boundary, it would not be a violation of the ESA to **unavoidably** and **unintentionally** take a California condor, provided such take is **non-negligent** and **incidental** to (resulting from, but not for the purpose of) an otherwise lawful activity, and the take is reported as soon as possible.

Any person with a valid permit issued by USFWS under 50 CFR 17.32, may take California condors in the wild in the proposed 10(j) boundary, pursuant to the terms of the permit (depending on the circumstance, additional permitting may be necessary). Additionally, any employee or agent of USFWS, NPS, the Yurok Tribe Natural Resources Division, California Department of Parks and Recreation, CDFW, or Oregon Department of Fish and Wildlife who is designated for such purposes, when acting in the course of official duties, may take a California condor within the proposed 10(j) boundary if such action is necessary: (1) for scientific purposes; (2) to relocate California condors within the proposed 10(j) boundary to improve California condor survival or recovery; (3) to relocate California condors that have moved outside the proposed 10(j) boundary, (4) to transport California condors to and from veterinary facilities or captive breeding facilities; (5) to address conflicts with ongoing or proposed activities in an attempt to improve condor survival; (6) to aid a sick, injured, or orphaned California condor; (7) to salvage a dead specimen that may be useful for scientific study; (8) to dispose of a dead specimen; or (9) to aid in law enforcement investigations involving the California condor (50 CFR 17.32).

NEPs are treated as species proposed for listing for the purposes of section 7 of the ESA (other than section 7(a)(1)); except on national park system and national wildlife refuge system lands, where NEPs are treated as threatened species for the purposes of section 7 of the ESA.

Incidental take of California condors not permitted in the proposed 10(j) boundary is take that occurs through habitat alteration or significant visual or noise disturbance (e.g., tree felling, chain saws, helicopter overflights, concrete cutters, fireworks, explosives) within 656 feet (200 meters) of an active nest. For the purposes of this rule, an active condor nest is defined as a nest that is attended by a breeding pair of condors engaged in breeding behavior (i.e., heightened activity around a nest tree, engaging in courtship behavior, copulation, egg laying, egg incubation, caring for a chick, or making regular attendance switches or visits to a nest known to have had a nesting attempt that season due to observed pair behavior). Nests have been occupied as early as December and may be occupied by chicks as late as December of the following year, especially in cases where initial nesting attempts fail and successful second breeding attempts are made.

FACILITY INFRASTRUCTURE DEVELOPMENT

Infrastructure required for establishing a release/management facility would include office and equipment storage space in addition to a condor field release/management facility.

The release/management facility would provide a flight pen, a holding area for condors, a trapping mechanism, an area for gear storage, solar panels, water pools for the condors, a carcass box, workspace, housing, an aversion/conditioning power pole, and a medical treatment unit. This facility could range in

size from a semi-permanent structure similar to that at Pinnacles National Park and Ventana Wildlife Society's Big Sur site to a temporary/modular structure, similar to the one found at Ventana Wildlife Society's San Simeon site. Illustrations of three existing release facilities are shown in figures 4, 5, and 6. These examples range in size from 1,250 square feet (at Pinnacles National Park and Big Sur) to 492 square feet (at San Simeon).



FIGURE 4: EXISTING RELEASE/MANAGEMENT FACILITY AT PINNACLES NATIONAL PARK



FIGURE 5: EXISTING RELEASE/MANAGEMENT FACILITY AT BIG SUR



FIGURE 6: EXISTING RELEASE/MANAGEMENT FACILITY AT SAN SIMEON

The release/management facility at the park would be no larger than 3,900 square feet, with approximately 146,560 square feet of predator exclusion fencing surrounding the facility that would extend down into the earth between 6 to 18 inches. All other structures (e.g., the water tank and water pool) would be built inside the flight pen structure of the release/management facility. Thus, the total disturbed area from the installation of the flight pen would be 150,460 square feet. Additional area would also be required to establish baiting stations adjacent to the facility. The total perimeter of the fence and its distance from bait placed at the center would be site specific, depending on topography. While the exact area is not currently known, it is expected that these exclosures would be of similar size to turkey vulture exclosures currently used in the park (i.e., approximately 1,600 square meters). Based on similar fencing used at Pinnacles National Park (see figure 7), the fence would be approximately 5 feet high, with posts dug approximately 6 to 18 inches into the ground. The fence would be electrified and powered by a solar panel. To limit digging animals, such as coyotes, a 3-inch apron (which is not buried) could be placed along the ground. Members of the IPT, mainly park cultural and tribal staff, would coordinate prior to the establishment of these areas.



FIGURE 7: EXAMPLE OF FENCING USED AROUND BAITING STATIONS AT PINNACLES NATIONAL PARK

Office and off-site storage facilities would include office space to house field and support personnel, longer-term equipment storage, areas for equipment repair and maintenance, a walk-in freezer for carcass storage, and potentially space for temporary isolation of condors under medical treatment. Program elements related to the release/management facility would be located in the Bald Hills area. Some of the support facilities, such as the freezer, office space, storage space, and staff housing, would be located at existing developed areas of the park. While facility reuse is preferred, if the evaluation shows that any proposed facility is not structurally sound, it would be removed and new modular units would be placed on the site.

CONDOR MANAGEMENT

Management of condors would be managed consistent with existing sites (USFWS 2016b, 2017b) and in accordance with the recommendations of California condor recovery program release site managers, captive rearing and treatment facility staff, and regional coordinators (collectively, the CCRP Partners). Actual management at the release site would be the responsibility of the IPT. Site leads would be either Yurok Tribe members or NPS staff. The CCRP Partners would provide overall guidance for the recovery of the species but would not be responsible for on the ground management at the facility. Condor management and the related activities of the program would follow the methods in use at other release sites in the United States, including using a release/management facility structure (described above), tracking condors via very high frequency (VHF) and satellite transmitters, installing remote telemetry receivers, using remote cameras at baiting stations for non-invasive health monitoring (perch that is a scale with wildlife cam triggered), assuring that facilities housing or treating condors are approved by the Institutional Animal Care and Use Committee, supplying condors with proffered food as supplementation or bait to allow for repeated trappings to monitor health and replace tracking hardware, managing nests if breeding occurs, transporting condors and eggs between approved facilities, and ongoing outreach to local stakeholders and the public. Condors are a complex social species. This, along with the complicated and rigorous demands of reintroducing a species with such a wide range, often calls for management to be extremely adaptive. As a result, the management methods are expected to change over time. All deviations from management actions described here would be the result of direct observation, analysis, and discussion with CCRP Partners, with the goal of improving recovery success.

Actions related to condor management encompass seven interrelated operations: (1) captive release and transfers of condors, (2) monitoring released condors and resource use of released condors, (3) nest management, (4) behavioral modification, (5) detection of mortalities, (6) lead monitoring and mitigation, and (7) outreach.

Captive Releases and Transfers

Reintroduction activities would include the annual release of cohorts composed of up to six condors. Condors selected for release from captive rearing facilities would arrive at the release/management facility and be cared for during a period of acclimatization and evaluation. An effort would be made to maintain an even sex ratio as the flock matures. Adjustments would be made in the release cohort structure annually based on availability from captive facilities, genetics, sex ratio, and age.

Husbandry. Condors would initially be held in the release/management facility for several weeks to months, which would allow them time to acclimate to the local environment and observe turkey vultures, common ravens, and, in later releases, previously released condors feeding at a bait station located outside the release/management facility but inside the release site area. Bait stations outside the release/management facility would be secured with fencing equipped with solar chargers. The installation of an electric predator exclusion fence around condor bait stations, which would be powered by a solar panel that is attached to an electric fence battery, would act to keep unwanted animals outside the baiting

facility. Condors would be continuously assessed for social ability and integration within the captive group, and individuals would be considered for release once integrated so that a cohesive flock may form post-release.

Mentors. Adult condors assessed by CCRP Partners to be un-releasable yet behaviorally adequate for use as release cohort mentors may be transferred from zoos and kept temporarily in the release pen to mentor the acclimating cohort. In years 2 through 10, wild condors from previous releases may be brought back into the release pen via the double-door trap system to act as mentors to new captive-bred cohorts arriving from breeding facilities. These mentors may stay with the new cohort in the pen as long as they appear useful to the new cohorts' social development. Captive young condors would be closely monitored for adequate social integration and physical health. Once these release candidates display proficiency at interacting with other condors, can integrate into feeding groups and into the roosting structure (i.e., finding and defending night roost locations that are safe and stable), and show good body condition through weight retention, they would be released singly or in pairs via the double-door trap system. Especially in early releases, older mentors may remain in the pen to draw the younger condors' activities to the release/management facility. Once the condors clearly recognize the release/management facility area as a social center, the need to hold mentors for long periods may be unnecessary.

Releases. Releases would be controlled via releases from the double-door trap system while food is available at the release site bait station. Releases would be held, if possible, until turkey vultures or released condors are in attendance and feeding on proffered food at the release site bait station to encourage newly released condors to immediately feed and identify the protected bait station adjacent to the flight pen. This method, in conjunction with holding the remaining condors inside the flight pen, is expected to draw the released condors to the flight pen area and establish it as a center of condor activity. In the weeks following release, additional condors deemed ready would be released via the double-door trap system, and releases would target times when other condors or turkey vultures are feeding outside the pen.

Baiting. The release site would be baited with carrion to acclimate the condors to the release area. Carrion for the site would be procured in ways similar to existing release sites (typically stillborn dairy calves and captive-bred small mammals such as mice and rabbits, as required). Past partners used by the IPT for other projects would be contacted to provide carrion. Once condors consider the release/management facility as a center of activity and have explored the local landscape, additional baiting sites may be added as necessary in areas deemed suitable for range expansion. The infrastructure required for baiting stations is described above under, "Facility Infrastructure Development." Such sites may be situated on any lands that provide benefit to released condors, have limited human access or traffic, and for which permission has been obtained from property owners or land agency managers. Baiting areas would be fenced and equipped with solar chargers. Moving condors into other areas relatively quickly would provide a foraging pattern to occupy their time and reduce regular baiting at specific locations, which could alter other native scavenger foraging patterns and reproductive success. Baiting would be offered at a frequency intended to ensure adequate nutrition of individuals until they transition to non-proffered food sources. Each individual's feeding activity would be monitored for a minimum of three months following release, or until condors are seen foraging effectively and independently, to ensure sufficient nutritional intake. Condors not observed feeding at proffered baiting sites, visually or via satellite signal, would be considered at risk until they demonstrate a high capability of locating food resources on their own. Such condors would be monitored closely via satellite data, and staff members would monitor and observe them visually, as possible, to confirm good health.

Monitoring Resource Use

Visual monitoring of condors would occur when possible, but is limited by road access, landowner permission (for condors that forage or nest outside the park boundary), and operational or safety constraints.

Monitoring resource use and tracking released condors is an essential component of the release program. The majority of condors would be outfitted with GPS transmitters and VHF radio transmitters prior to release. Equipment would be similar to the models and techniques in use with condors elsewhere in the California condor recovery program. Each condor would receive one GPS radio transmitter mounted patagially (the membrane between a bird's body and its wing) and at least one VHF transmitter mounted either patagially or via tail-mount (attached to a single rectrix [the flight feather on the tail of a bird]). Released condors would be remotely monitored daily via satellite or GPS transmitter data.

Trapping Condors. Biannual trapping events would occur at the release/management facility to allow for hands-on physical exams of condors, replacing faulty or aging transmitters, marking growing feathers, sampling feathers marked previously for contaminant monitoring, and drawing blood samples. Trapping may also occur at other times and locations as required to meet the needs of the program, assure bird health and safety, and prevent conflict with land owners or managers (see "Behavioral Modification" section), particularly if a bird is displaying symptoms of injury or lead toxicosis.

Nest Management

Under the monitoring program, staff would search for, visit, access, and monitor nests. Project staff, who may include NPS employees, Yurok Tribe representatives, or specialty contractors, may access cliff areas or trees, if it can be done safely and without affecting the tree, organisms living in the tree, and the condor, to install or maintain field monitoring equipment (e.g., cameras), clear micro-trash debris from nests, collect samples, or conduct health assessments of chicks in nests. For all monitoring activities, staff would access the nest sites on foot where possible, limiting vehicle use to existing roads. Climbing ropes or rappelling may be required, and any program representative leading such activities would have adequate rope-use and/or rescue training certification. Climbing trees in old-growth coastal redwood forests in the project area and in other areas may be restricted for the protection of nesting marbled murrelets or other protected species.

Nest Searching. Pair formation would be observed via visual observation of courtship activities or through proximity of a male/female pair through telemetry data during the courtship season. GPS data on pair activity would provide insight into general nest areas; nests would be located using VHF tracking and visual observation, where possible.

Nest Observations. Nest observation locations would be situated to maximize safety for the observer and potential for observations into the nest cavity while simultaneously minimizing disturbance to the nest (condor chicks and parents), the area, and other nearby wildlife. Nests would be observed for several hours several times a week to assure continuing activity. CCRP Partners may require more extensive observation periods to assess nest progression or management by parent condors as required. Cameras installed directly inside nests, or mounted exterior to nests with views into nests, may be used for observation. Cameras affixed to drones have also been considered as a nest observation method. If pursued, all policies and guidance on drone use would be followed to minimize potential impacts.

Nest Entries. Nest entry to collect samples, determine fertility of eggs, assess nest condition, assess chick health, or provide treatment to chicks may be required based on adaptive protocols agreed upon with the CCRP Partners. Initial nest entries would likely be required to assess levels of microtrash and collect nest

samples to assess potential threats to the reintroduced population. If nests were determined to require entry, entry protocols agreed upon by the CCRP Partners may be used to minimize disturbance to the nest, area, and other nearby wildlife. If nests occur in areas where disturbance to threatened or endangered species are possible, surveys of the nest surroundings for such species would be used prior to entering the nests. If nests occur in trees capable of containing marbled murrelet nests, specific protocols would be conducted to minimize disturbance to nesting marbled murrelets. Surveys for marbled murrelets at the condor nest tree and surrounding trees would be undertaken for at least two consecutive mornings prior to nest entry. Nest entry would then be facilitated by a certified marbled murrelet tree climber who would climb the tree, look for murrelet occupancy on potential nest platforms below the condor nest structure, and, if no occupied murrelet nests are found, set ropes for access to the condor nest for condor biologists. If an occupied murrelet nest were found below the condor nest structure, consultation with local USFWS officials would occur to determine whether condor nest entry is authorized.

Nest Interventions. Condor release site managers sometimes intervene in condor nests. Management interventions typically include clearing microtrash, replacing inviable eggs with viable eggs, and providing treatment to condor chicks when observations indicate potential health concerns. Interventions may be recommended based on the estimated value for specific actions as determined by the CCRP Partners.

Fledgling Observations. Condor fledglings from wild nests would be outfitted with standard GPS and VHF telemetry equipment either prior to fledge or as soon after fledge as possible. Monitoring fledglings would allow staff to (1) determine cause of death in cases where fledglings fail to survive, (2) monitor fledglings' social integration with free-flying condors, (3) administer vaccinations, and (4) assess parental care.

Nest Failure. In cases of nest failure, biologists would attempt nest entry as soon as possible to retrieve failed eggs, chicks, or fragments thereof to collect as much data as possible to determine the cause of nest failure and inform future recovery efforts. Recovered chicks would be handled per protocols established by the National Fish and Wildlife Forensics Laboratory in Ashland, Oregon, and would be transferred there for postmortem examination to determine cause of death. Fragments obtained would be archived in a dedicated sample freezer for later analyses.

Behavioral Modification

Natural inquisitiveness is often a behavioral trait of scavenging species and can lead to exposure to potentially risky situations. Such situations may include highly unpredictable threats, such as interactions with humans. Habituation to humans potentially puts condors at a survival disadvantage. Immediately post-release, condors would be monitored visually and via telemetry. Condors showing a lack of caution with regard to approaching people, structures, vehicles, or other potentially dangerous wildlife would be considered for intervention, which may include behavioral modification, temporary capture, or permanent removal from the wild. The field team would trap a newly released condor and return it to captivity (temporarily or permanently) if it exhibits undesirable behavior in the wild. This behavior includes approaching humans, not socializing with other condors, roosting on the ground, and/or the inability to locate food.

Categories of Undesirable Behavior. Cade et al. (2004) categorized undesirable condor behavior into three distinct types of increasing intensity, which are described here. **Type I** behaviors include condors remaining at least 49 feet (15 meters) from people, exploring anthropogenic objects infrequently, landing on human-made structures limited to those that resemble natural perches or offer adequate protection from predators, and abandoning the undesirable behavior after one to two deterrence activities. **Type II** behaviors include condors landing or flying while maintaining a distance when approaching humans and

inspecting their belongings, only nearing them when they are easily able to get away and fleeing when antagonized by humans. **Type III** behaviors are of utmost concern and include condors allowing close human approach when no escape route is present, advancing on humans, allowing themselves to be touched and captured, and demonstrating little to no fear of humans with no response to hazing.

Behavioral Management. Eliminating undesirable behaviors to prevent injury or mortality is often necessary. Rapid response is often required because condors are extremely social and will readily adopt behaviors from flock-mates. The primary tools that would be used in condor behavior management include hazing and aversion training. Hazing is defined as “an activity directed at a condor by humans in attempt to discourage a behavior,” while aversion training is defined as making an activity or behavior (considered undesirable to managers) unpleasant without direct human interaction (Grantham 2007).

Power-pole aversion training would be used in northern California release sites, which is common at other condor release sites. Power pole models in or near the flight pen would be fitted with shock wires that deliver a mild shock to condors that land on them. Use of such mock power poles has resulted in virtually no released condors using power poles as perches since its institution.

Hazing would be used to deter condors from landing on human-made structures. Hazing is an effective deterrent if done rapidly and consistently and may consist of the use of loud noises (clapping, shouting), waving hands, shooting condors with slingshots with non-injurious food items (gumdrops, grapes), or using handheld water guns. Inconsistent application of hazing techniques may allow habituation to the method and subsequent failure to adequately alter behavior. All hazing would be approved through the appropriate permitting procedures.

Use of bird spikes (Nixalite®), shock strips, solar powered bird spiders, and motion-activated sprinklers are also deterrents that may be effective in keeping condors from landing on structures where habitual use is occurring. These deterrents may be offered and used if necessary and permitted if condors frequent particular structures in their environment.

Detecting Mortalities

For condors outfitted with satellite transmitters assumed to be functional, crews would be dispatched to check on bird conditions any time movement is not detected over two consecutive days and weather conditions are appropriate for flight. All VHF transmitters would be equipped to send a unique mortality signal if individuals stop moving for a specified amount of time, likely 8 to 12 hours. If a mortality signal is detected, staff would be dispatched immediately to assess the bird's condition. If an individual's satellite unit is not functional and radio presence is not detected for more than one week, an aerial survey from aircraft may be undertaken to locate the bird. All condor carcasses recovered from the wild population would be handled per protocols established by the National Fish and Wildlife Forensics Laboratory in Ashland, Oregon, and would be transferred there for postmortem examination to determine cause of death.

Lead Monitoring and Mitigation

Blood Lead Testing. Blood would be drawn from captured condors to allow for immediate testing of circulating blood lead levels and laboratory analysis for lead and other contaminants of interest. If tested blood showed elevated levels of lead (as defined by CCRP Partners), the condors could immediately be radiographed for presence of lead fragments in their gastrointestinal tracts or transported to treatment facilities for intervention. Acceptable lead levels will be specific to each release site.

Treatment of Elevated Blood Lead Levels. If lead fragments were detected or if clinical symptoms of acute lead toxicosis were observed, condors would immediately be transported to a permitted advanced-care facility. On-site radiograph capabilities would be used on occasion to assess trapped condors and determine if transport of condors to a treatment facility is required. If lead fragments are detected or if clinical symptoms of acute lead toxicosis are observed, condors would immediately be transported to a permitted advanced-care facility. If fragments were not detected and symptoms did not present as acute, condors with elevated circulating blood lead levels may be retained in isolation pens either in the release/management facility or in other condor facilities where on-site chelation therapy may be administered, or condors may be transferred to permitted treatment facilities. The site leaders (Yurok Tribe members and NPS staff) would determine when it is appropriate for a bird to receive treatment.

Outreach

NPS and the Yurok Tribe would continue and expand ongoing interpretative activities and programs concerning condor ecology and nonlead outreach. Efforts to coordinate interpretive messages, resources, and outreach activities with other stakeholders, such as the Oregon Zoo, Peregrine Fund, and the Institute for Wildlife Studies and others for the use of nonlead ammunition would also continue. Camera and video feeds of condors would be established where possible and made available for schools and public viewing.

ACTION ALTERNATIVE 2

Under action alternative 2, the construction of the release/management facility, infrastructure and associated facilities, and monitoring program elements would be the same as described for action alternative 1; however, USFWS would not designate the restored population as a NEP. Condors in this population would be treated as endangered under the ESA, and all take prohibitions under section 9 of the ESA would apply to condors released under the program. Also, condors in this population would be treated as an endangered species for the purposes of section 7 of the ESA.

TABLE 1: SUMMARY OF ALTERNATIVE ELEMENTS

Element	No-Action Alternative	Action Alternative 1	Action Alternative 2
Release/management facility, infrastructure, and ancillary facilities	No condor release/management facility or associated facilities would be constructed in the park.	A release/management facility and associated infrastructure for capture and release, office storage, condor medical treatment, and staff housing would be designed and constructed in the park.	Same as action alternative 1
Management program	No condor management program would be established in the park.	A management program would be established and include nest monitoring and activities related to capture and tracking of condors.	Same as action alternative 1
Outreach for nonlead ammunition	No further outreach for the use of nonlead ammunition would be developed for the park.	Coordination with other parks and wildlife refuges would occur to implement outreach for the use of nonlead ammunition.	Same as action alternative 1
Experimental population	An experimental population designation for California condors would not be designated under the ESA. Condors would not be reintroduced at the park or established near the park. Current wild populations would continue to be managed by the California condor recovery program.	The condor population released at the park would be designated an experimental population under the ESA. Special rules under the ESA would be established for monitoring and management of the population.	An experimental population designation for California condors would not be designated under the ESA. Condors would be designated and reintroduced as an endangered species.

MITIGATION MEASURES

NPS places strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, NPS would implement the following measures and best management practices as part of the action alternatives.

RELEASE/MANAGEMENT FACILITY DEVELOPMENT

- Clearly state all resource protection measures in the construction specifications for the release site and instruct workers to avoid conducting activities outside the project area of the release site. Limit disturbances to marked construction zones.
- Hold a preconstruction meeting to inform contractors about sensitive areas, including natural and cultural resources.
- Delineate construction zones outside existing disturbed areas with flagging and confine all surface disturbances to the construction zone.
- Obtain NPS approval for all site staging and storage areas for construction vehicles, equipment, materials, and soils in previously disturbed or paved areas. Locate these areas outside high visitor use areas and clearly identify them in advance of construction.
- Require contractors to properly maintain construction equipment to minimize noise and do not allow construction vehicle engines to idle for extended periods.
- Remove all tools, equipment, barricades, signs, and surplus materials from the project area once the project is completed.
- Require contractors to clean accumulated soil or visible plant materials from large equipment to reduce transport of invasive species into the construction area. In addition, weed-free construction materials (e.g., gravel, sand, and mulch) would be used to prevent the introduction and spread of invasive plants into the parks.

CALIFORNIA CONDOR

As detailed in the 1996 *California Condor Recovery Plan* (USFWS 1996), the following measures would be implemented to minimize potential adverse effects on condors:

- Develop a management plan outlining the management of releases for at least five years into the future to ensure adequate support for proposed releases.
- Continue to monitor potential impacts of all surface-disturbing activities (e.g., energy, residential, agricultural, and transportation development projects) in the project area.

OTHER SPECIAL-STATUS SPECIES

Implement the following measures to minimize potential adverse effects on marbled murrelets:

- If condor nests occur in trees capable of containing marbled murrelet nests, conduct surveys for marbled murrelets at the condor nest tree and surrounding trees for at least two consecutive mornings prior to climbing the condor nest tree, if within murrelet breeding season. Use a certified marbled murrelet tree climber who would climb the tree, look for murrelet presence on

potential nest platforms below the condor nest structure, and, if no occupied murrelet nests are found, set ropes for access of the condor nest by condor biologists to facilitate nest entry. Consult with USFWS official if an occupied murrelet nest is found below the condor nest structure to determine whether condor nest entry is authorized.

- When baiting occurs at a recurrent location (i.e., the release/management facility) or is proffered for specific capture (i.e., one-time baiting), remove the food from the site as soon as possible after capture or other project objectives are met to minimize corvid (e.g. crows, ravens, jays) attraction at the site.
- If avian scavengers other than condors begin to visit baiting sites in large numbers, rotate baiting sites in use to alleviate high visitation by non-target species and reduce the likelihood of alteration of their behavior, resource use patterns, and reproductive success.

Implement the following measures to minimize potential adverse effects on the northern spotted owl:

- If the pre-construction survey identifies condor nests in trees that house active northern spotted owl nests, implement specific protocols to minimize disturbance to northern spotted owls.
- To prevent inadvertently disturbing an active northern spotted owl nest, climb trees used for condor management activities in suitable spotted owl nesting habitat before or after the spotted owl breeding season.
- If a tree located in suitable spotted owl nesting habitat needs to be climbed during the owl nesting season, inspect the tree and adjacent trees for any sign of nesting activity before climbing.
- Review state and federal databases prior to climbing the tree to determine whether any recent or historical spotted owl nest sites or active site centers exist in the area where the nest tree is located.
- In the unlikely event an active spotted owl nest is present in a tree that needs to be climbed, climb the tree after the young have fledged.
- Conduct separate environmental analyses to ensure spotted owls are protected and implement preventive measures to avoid any disturbance to nesting owls because construction of the new visitor center and Jed Smith Campground may cause temporary minor disturbances to wild birds.

Implement the following measures to minimize potential adverse effects on snowy plover. When needing to monitor one or more condors or sample a marine mammal carcass on a beach occupied, or with the potential to be occupied, by western snowy plovers the following best management practices would be employed:

- In the park and within the California State Parks North Coast Redwoods District (NCRD), adhere to the guidelines contained in *Redwood National and State Parks, Staff Responsibilities and Management Strategy for Western Snowy Plovers* (RNSP 2010). Outside the park and NCRD, contact the agency responsible for plover management for beach-specific snowy plover guidelines. Require each person monitoring condors at a carcass or sampling a carcass demonstrate ability to identify snowy plovers and be a qualified surveyor as detailed by US Fish and Wildlife Service snowy plover management guidelines. If more than one person at a time is conducting this work, ensure that at least one person in the group is a qualified surveyor.
- Prior to approaching a condor flock or a beached marine mammal carcass, survey the area for snowy plover presence.
- If a plover nest is present, prohibit the approach of vehicles or foot traffic within 325 feet (100 meters) of the nest and do not enter an established snowy plover nest protection zone. Likewise, if a plover brood is present, prohibit approach within 100 meters of the brood.

- If wintering birds are located near a condor flock or beached marine mammal carcass, prohibit the approach of vehicles or foot traffic within 100 meters of the plovers' location.
- Have vehicles accessing the beach enter at a designated vehicle access point; proceed directly to the waveslope; drive as low on the wave slope as possible until reaching the condor flock or beached carcass; avoid the wrack line; and drive 5 miles per hour or the minimal speed required to prevent becoming stuck in sand, but never exceeding a speed of 20 miles per hour.
- Limit trips to and from the flock or carcass to one round trip per day, except in the case of emergency.

Should it be difficult to implement the minimization measures due to proximity of a condor flock or carcass near a snowy plover nest or brood, the USFWS would be contacted for technical assistance.

Implement the following measures to minimize potential adverse effects on the Humboldt marten:

- Protect and do not disturb denning structures, if Humboldt marten dens are detected during preconstruction surveys.
- Condor nest trees that need to be climbed for nest monitoring purposes in the geographic range of the marten would be evaluated for potential den and rest sites before and during climbing. If a den and rest site were detected, the tree would only be climbed after the martens had finished raising their young.
- Construction of the new visitor center and the Jed Smith Campground may cause temporary, minor disturbances to martens. However, these actions would require their own environmental analyses to ensure martens are protected, and preventive measures would be taken to avoid any disturbance to denning martens.

Implement the following measures to minimize potential adverse effects on the rare coastal plants (beach layia, beach pea, pink sand verbena, wolf's evening primrose):

- Require all persons in vehicles accessing park beaches where these plants occur to obtain a vehicle permit and follow a list of conditions identified on the permit, such as observing a maximum speed limit, avoiding restricted areas, and only driving or walking on wave slope areas or areas where these plants do not occur. Prohibit the use of all-terrain vehicles, dune buggies, or motorcycles at these sites.
- Employ seasonal closures and other management tools and conservation measures in coastal Oregon to prevent habitat disturbance of these plants.
 - If staff monitor condors along the beaches where these plants occur, review state and federal information sources to determine if any of these rare coastal plants occur at or near to the site.
 - Monitor condors at sites that contain sensitive habitat from a distance, so as not to disturb sensitive habitat. If biologists need to access beaches in known sensitive habitat areas, obtain permits to access these areas and adhere to permitting guidelines. Follow these same guidelines for areas with known listed and rare plant communities in other parts of Oregon.

Implement the following measures to minimize potential adverse effects to all other special-status species:

- Consider other special-status species, such the red tree vole, Sonoma tree vole, Pacific fisher, golden eagle, and special-status plant species and implement measures to avoid these species where necessary.

CULTURAL RESOURCES

- Construct facilities to minimize the visual impact on cultural resources as viewed from areas of higher visitor use.
- Identify and delineate any protection areas as necessary for historic properties.
- If determined necessary, engage an archeologist meeting the *Secretary of the Interior's Standards* to monitor all new ground disturbance. In addition, and if determined appropriate in consultation with federally recognized tribes, use a cultural monitor from a federally recognized tribe with ancestral affiliation to the location where the ground disturbance occurs. For example, if a ground-disturbing activity is planned in the YAT, then a Yurok cultural monitor could monitor the activity.
- In the unlikely event that previously unidentified archeological resources are encountered during project construction, suspend work in that location until an archeologist meeting the *Secretary of the Interior's Standards* has evaluated the find. Inadvertent discoveries would require further consultation under section 106 of the NHPA with the California Office of Historic Preservation and federally recognized tribes.
- In the unlikely event that human remains are discovered during construction activities, immediately cease work on the project, and the park and Yurok Tribe archeologists would be contacted immediately. As required by law, immediately notify the coroner and follow all provisions outlined in the Native American Graves Protection and Repatriation Act (1990).
- Complete ongoing consultation required under section 106 of the NHPA. Because the entirety of the area of potential effect (APE) has not been previously surveyed, conduct any additional further investigations and implement protection and mitigation measures as necessary to avoid possible impacts on cultural resources.

ALTERNATIVES CONSIDERED BUT DISMISSED

A number of alternatives were identified during internal and agency scoping. During internal project development, these options were deemed not feasible, out of scope of the current planning process, or had several disadvantages and were not carried forward for analysis in this EA. They are described below.

VARIATIONS IN THE 10(j) SPECIAL RULES

The planning team considered various configurations of the proposed 10(j) boundary, some larger and some smaller. The proposed boundary was developed to be responsive to public and stakeholder feedback, including State partners' requests for regulatory certainty, a desire to encompass most of the likely movements of condors over the near future, and the need to designate an area geographically separate from existing populations. USFWS is currently seeking comments on the appropriateness of the proposed experimental population boundary through this draft EA, and any changes to that boundary would be reflected in the final EA.

ALTERNATIVE RELEASE/MANAGEMENT FACILITY SITES

The evaluation of potential project sites for the release/management facility considered a variety of factors, such as suitability as a release site for condors, suitability for staff, visibility and accessibility of the facility to the public, elevation, slope, suitability of adjacent land uses, cultural viewsheds, and historical cultural sites. Construction of a release site at these alternative sites could have a variety of potential adverse impacts, including adversely affecting a historic district and viewshed of the park. Some

project sites had high levels of public accessibility, nearby traffic use, and histories of vandalism. For the safety of the public, release/management facility staff, and condors, the proposed facility would be located away from areas of high visitor use, consistent with current park management actions and be accessible by release staff year-round.

ALTERNATIVE SITES FOR ADMINISTRATIVE FACILITIES

Various areas of the park were considered for development of administrative facilities. Factors that were considered included having available utilities to support the offices and associated activities, an area away from visitation and general human use to discourage habituation of condors that are temporarily at the site, and the ability to provide a secure area for these facilities. Some of the sites that were considered contain existing historic structures. Adaptive reuse would alter the facility, resulting in an impact; it would also have higher associated costs without providing additional benefits. Once these factors were considered, the available sites at the park were determined and analyzed in the alternatives above.

CHAPTER 3

Affected Environment



CHAPTER 3: AFFECTED ENVIRONMENT

INTRODUCTION

This chapter reviews the environmental resources and human uses that the proposed action could affect, both beneficial and adverse. For the purposes of determining the affected environment, the “project area” encompasses the area shown in figure 2 (see chapter 1). Table 2 details actions that could occur within this area and where impacts for these actions are expected to occur. The level of detail under each impact topic varies to reflect the potential for impacts on various resources from the potential alternative elements, including the establishment of a release/management facility; nesting, roosting, and other use of habitat by condors near the facility; and the establishment of a section 10(j) area (also called the proposed 10(j) boundary) under the ESA. For example, the discussions of biological and cultural resources focus on resources found in the immediate area of the proposed release/management facility and the surrounding areas where California condors are expected to roost, feed, and nest because that is where the majority of potential impacts on these resources would occur. Habitat modeling was reviewed to determine the area for potential nesting, roosting, and feeding (D’Elia et al. 2015). Typical patterns of habitat use of the condors released from other facilities were considered, and it was determined that nesting is likely to occur within approximately 62 miles (100 km) of the release site (which would not occur until condors are around six years old), and roosting and foraging would occur within approximately 186 miles (300 km) (see figure 8). Simple, straight-line distances were used to delineate these areas because more detailed analyses of movement probabilities based on landscape features are not yet available. While the proposed 10(j) boundary would extend for a greater distance than the area for potential nesting, these areas are not addressed under biological and cultural resources because impacts on these resources beyond the release/management facility and nesting areas are expected to be minimal. Socioeconomic impacts are analyzed over the entire proposed 10(j) boundary to capture the extent to which a NEP designation would reduce socioeconomic impacts over reintroducing the population as endangered under the ESA. Issues and impact topics discussed in this chapter include the California condor, other special-status species, cultural resources, tribal resources, and socioeconomics.

TABLE 2: PROJECT AREAS AND IMPACT TOPIC FOCUS

Area	Actions to Occur in that Area	Resources to be Affected
Release/management facility site and immediate surrounding area (figure 8), in the park	Establishment of the release/management facility; baiting for condors, including baiting stations away from the release/management facility; management as detailed in chapter 2. Feeding, roosting, and nesting of condors could occur in this area, as well as outside the park.	California condor Other special-status species Cultural resources Tribal resources
Ancillary facility site	Including freezer and office space, storage, medical triage.	California condor Cultural resources Tribal resources
Potential distribution of condors outside the park (62 miles [100 km] for nesting, 186 miles [300 km] for feeding and roosting)	Monitoring and management of condors as detailed in chapter 2. Feeding, roosting, and nesting could occur in this area.	California condor Other special-status species Tribal resources Socioeconomics
Entire proposed 10(j) boundary	Monitoring and management of condors that undertake extraordinary movements. Such extraordinary movements are rarely expected to occur.	Socioeconomics

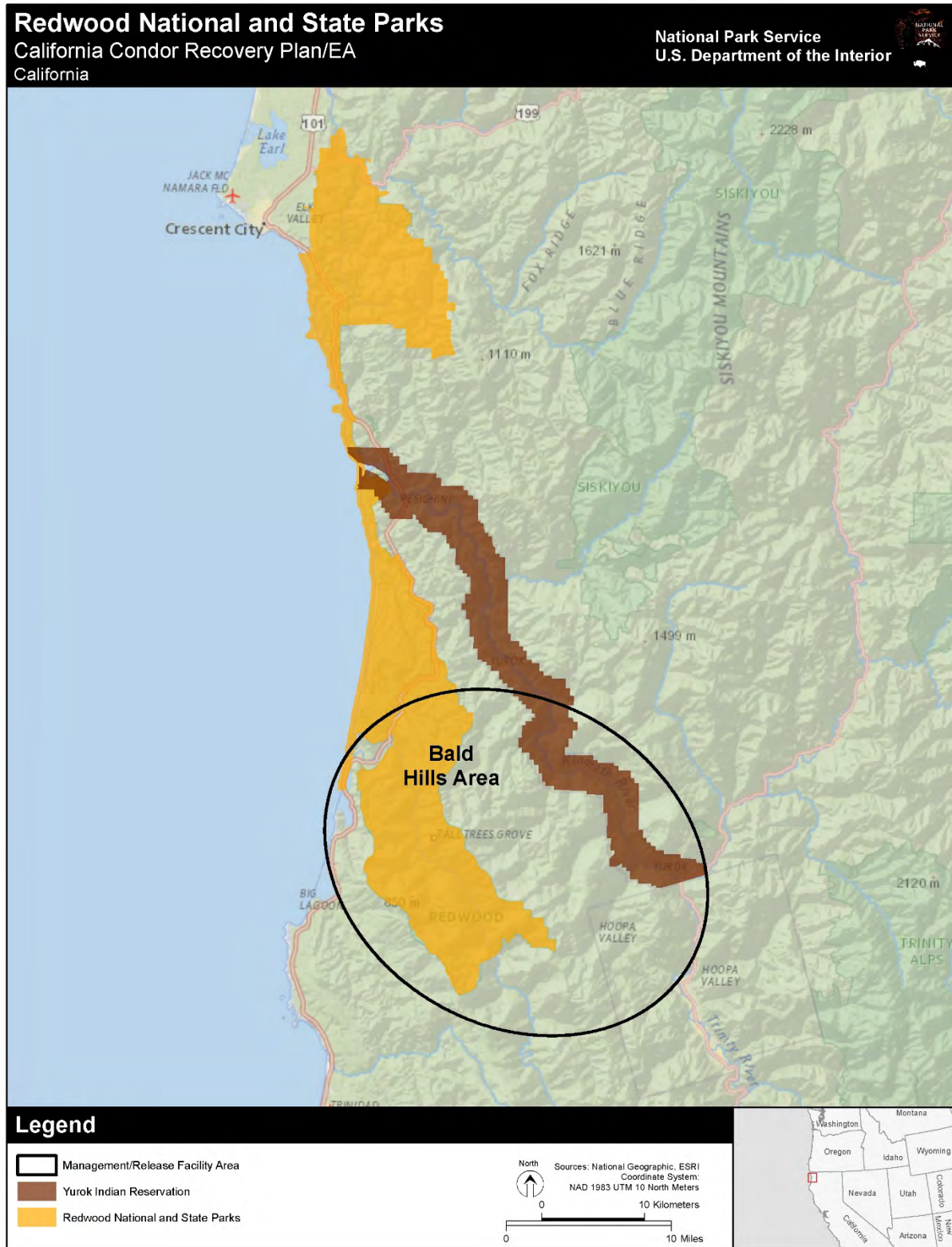
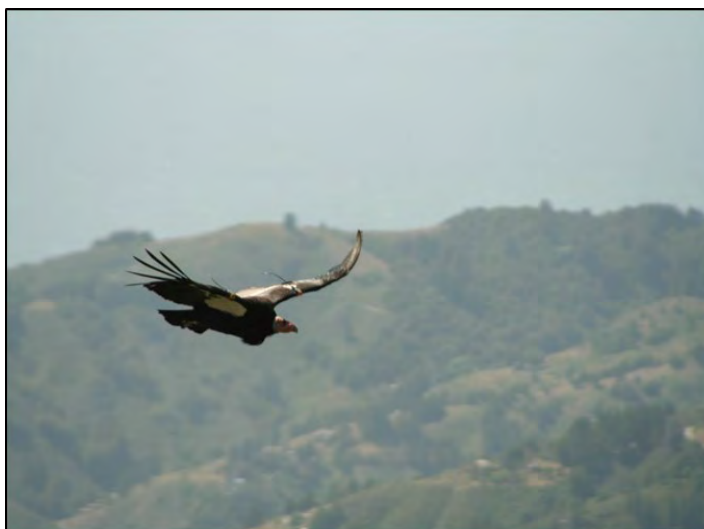


FIGURE 8: BALD HILLS AREA

CALIFORNIA CONDOR

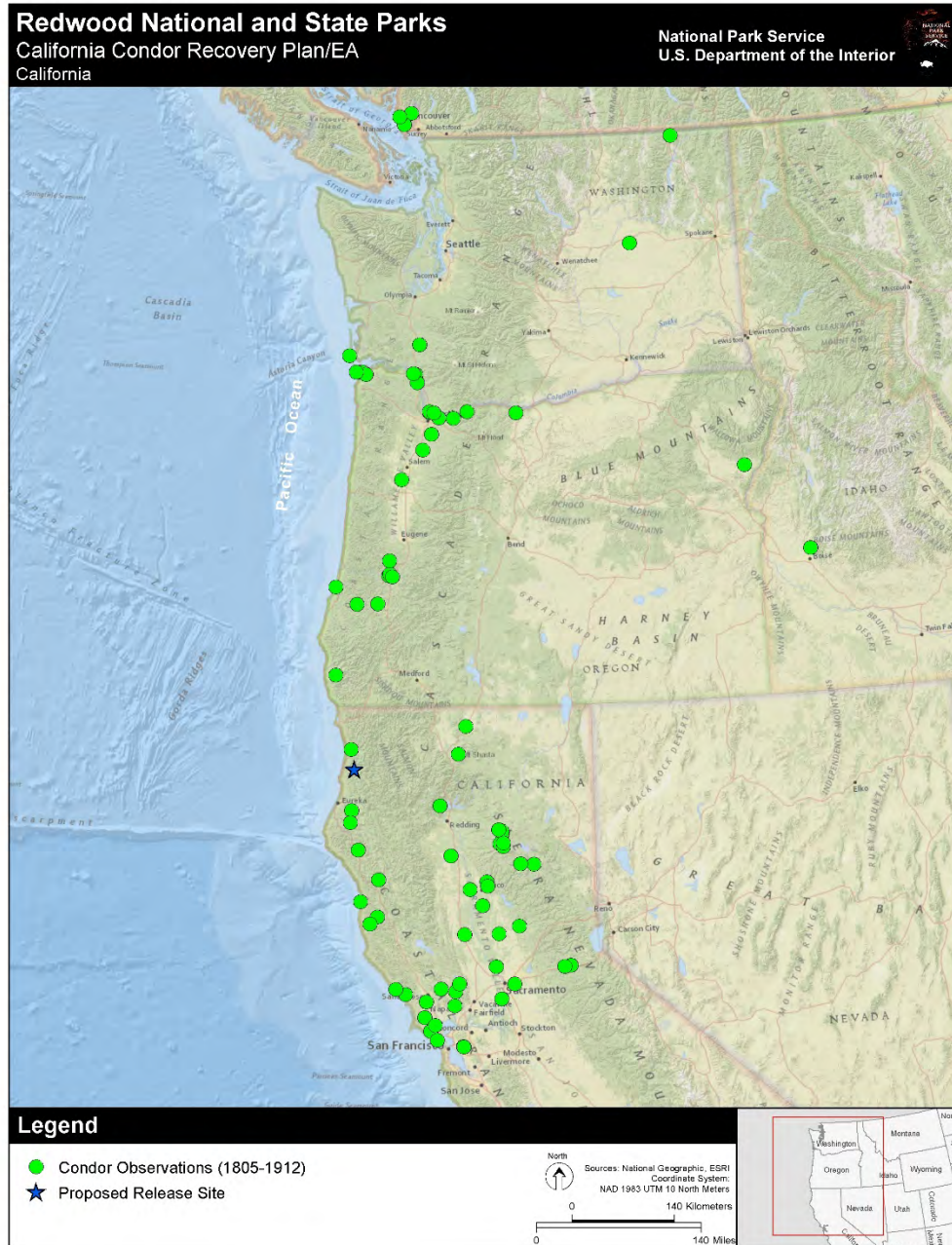
The California condor is the largest soaring land bird in North America and one of the largest of the seven species of vultures in the New World. It has the largest wingspan of any North American land bird, spanning an average of 9 feet and has an average body weight of just under 19 pounds (Finkelstein et al. 2015). Adults are largely black with a mostly naked head and neck and a well-developed dark feather ruff around the lower neck (Finkelstein et al. 2015). Although males are slightly heavier than females, both sexes are similar in size and color, making identification of the sex of individuals difficult in the field. In flight, a long, narrow, white triangle can be seen on the leading edge of the underside of the wings. California condors are thought to live up to 60 or 70 years (Finkelstein et al. 2015). However, excessive mortality from a variety of causes in the wild, including lead poisoning, has prevented documentation of longevity in this species (Rideout et al. 2012). The California condor is an obligate scavenger, feeding exclusively on carrion, and is thus largely dependent on large mammal carcasses for its food source (D'Elia and Haig 2013).



California condor in flight.

California condors were known to be distributed across the North American continent before the end of the Pleistocene; fossil records have been reported from Oregon, California, Nevada, Arizona, New Mexico, Texas, Florida, New York, and Mexico (D'Elia and Haig 2013). During the end of the Pleistocene, around 12,700 years ago, about 90 genera of large mammals (those weighing more than 100 pounds) became extinct in North America, leading to a reduction in food supply for the California condor (D'Elia and Haig 2013). This reduced food supply likely led to a reduction in the condor's prehistoric range and restricted the species to the western United States (D'Elia and Haig 2013). Here, condors could feed on salmon, beached whales, other marine mammals, and deer and elk that existed at the time throughout the region (D'Elia and Haig 2013). Historical observations of California condors indicate that they were widespread and locally abundant from southern British Columbia, Canada, to Baja California, Mexico, during European-American colonization (Koford 1953; Snyder and Snyder 2005; D'Elia and Haig 2013). At that time, they were apparently restricted to the area west of the Rocky Mountains and were infrequently encountered east of the Cascade or Sierra Nevada mountain ranges (Snyder and Snyder 2000; D'Elia and Haig 2013). California condor population declines and range contractions were concurrent with European-American settlement of the West, with condors disappearing from the Pacific Northwest in the early 1900s (D'Elia and Haig 2013) and from Baja California by the end of the 1930s (Wilbur 1980).

By 1950, because of high mortality in adults from shooting, secondary poisoning, and specimen collection for scientific purposes (D'Elia and Haig 2013), the geographic range of California condors was restricted to a horseshoe-shaped range in southern California, surrounding the southern Central Valley (Snyder and Snyder 2005). Figure 9 shows historical observations of California condors in the Pacific Northwest in relationship to the proposed condor release site.



SOURCE: D'Elia and Haig 2013

Note: Observations include those with reliability codes 1–4:

1. Physical evidence (museum specimen) or first-hand identification based on bird-in-hand
2. First-hand observation with no physical evidence and no bird-in-hand, but with sufficient details to rule out other raptors
3. Second-hand identification based on a bird-in-hand
4. Second-hand observations with no bird-in-hand, but with sufficient details to rule out other raptors and which were proximal in time (within 10 years) and space (within approximately 62 miles to physical evidence or reliable first-hand accounts)

FIGURE 9: OBSERVATIONS OF CALIFORNIA CONDORS IN THE PACIFIC NORTHWEST (1805–1912) IN RELATIONSHIP TO THE REDWOOD NATIONAL PARK / YUOK ANCESTRAL TERRITORY CONDOR RELEASE SITE

The large wingspan of the California condor allows the bird to soar without flapping for long periods, enabling the scavenger to cover large areas of the landscape in search of carrion. Because its food supply is ephemeral and widely dispersed over the landscape, the condor's home ranges are extremely large. Individuals can cover up to 150 miles per day in search of carrion and can glide up to 50 miles per hour. Core foraging areas for breeding pairs in the 1980s in southern California averaged about 1,000 square miles (Snyder and Snyder 2005).

When not breeding, condors wander over their full foraging range, encompassing an area of about 15,000 square miles, often roosting far from nest sites (USFWS 2016b). To use such a large range, the California condor has adapted to flying with little energy expenditure to find food efficiently (Snyder and Snyder 2005). California condors typically forage during the midday hours when higher winds and thermal updrafts become more common, allowing them to soar in search of food without flapping. Condors have greater wing-loading compared to turkey vultures, which may be one factor underlying the reluctance of condors to forage over flat-bottomed valleys like turkey vultures commonly do. It also likely explains why turkey vultures have the ability to forage earlier and later in the day when thermal activity is low (USFWS 1975).

Adaptations of the California condor for a scavenging lifestyle include the following (Snyder and Snyder 2005):

- Large body size that produces a low metabolic rate, which contributes to its ability to survive for more than a month without food.
- Excellent eyesight to help in finding food.
- Largely naked head to reduce fouling of feathers while feeding, a long neck to reach far inside large carcasses, and a hooked bill for tearing flesh.
- Large food crop to ingest large quantities of food in a short period.
- Feet adapted for walking and running on the ground, which likely aids in competing with other scavengers for food and avoiding injury.
- Long development time of young and long time to sexual maturity, which reflects the extensive learning period required for juveniles to gain knowledge of complex resource availability (carcasses, water sources, bathing spots, communal roost sites, and the location of potential nest sites that may vary with weather and season), and to master the complex social interactions that support the bird's lifestyle.
- Regurgitating food to young at the nest, eliminating the need to carry food in its bill for long distances between scavenging sites and the nest and avoiding the problem of food piracy by other condors as adults travel back to the nest.
- Intelligence, curiosity, and learning ability that compensates for a poor sense of smell allows this species to follow turkey vultures and ravens to food sources by evaluating their flight behaviors and likely promotes complex social interactions that take place with other condors at roost sites and carcasses and help them compete with other scavengers (e.g., eagles) at carcasses.
- Resistance to bacterial toxins commonly found in decaying carcasses.

The California condor is known to feed on a variety of vertebrates, including whales, California sea lions, other pinnipeds, salmon, cattle, sheep, deer, elk, horses, mules, goats, burros, and other domestic mammals. It also feeds on smaller mammals, including rabbits, skunks, ground squirrels, foxes, weasels, and kangaroo rats (Snyder and Snyder 2005). Condors typically find food every two to three days in the wild. The California condor also needs calcium in its diet to maintain its health and is known to consume the shells of marine mollusks and barnacles. The condor does not appear to be a habitat specialist because

it has readily switched from natural mammalian foods to domestic livestock in its diet as historical native grasslands were converted into farmland and pastures (Finkelstein et al. 2015).

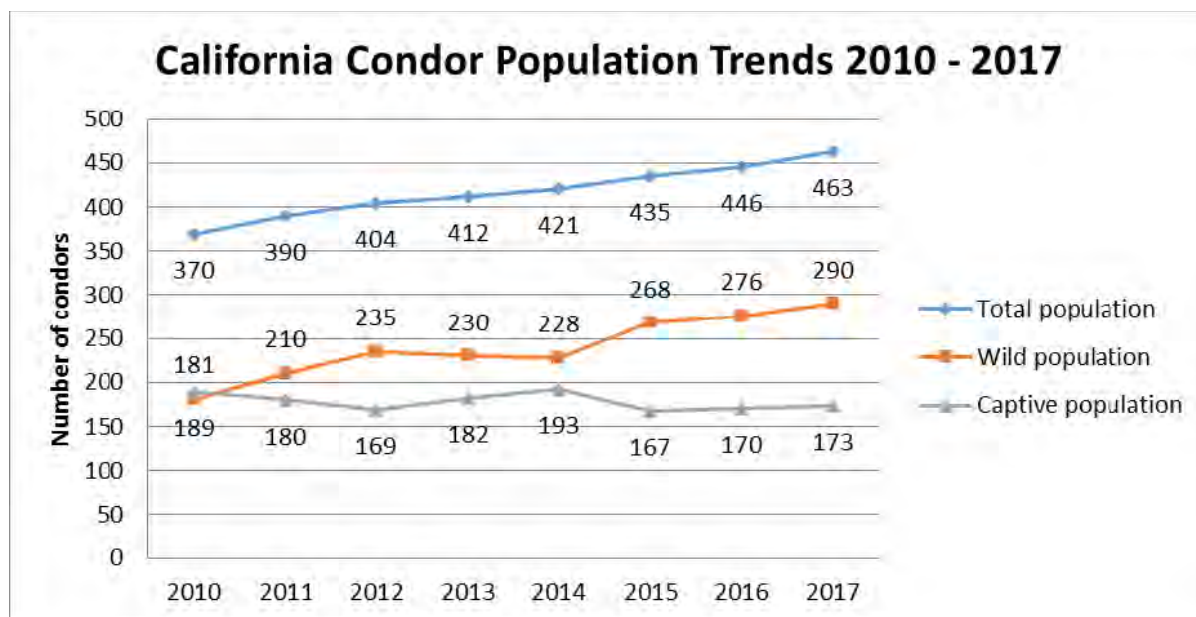
STATE AND FEDERAL STATUS

The California condor was one of the first species to be protected under the ESAs of 1966 and 1973. It was federally listed as endangered in March 1967. In 1973, USFWS formed a condor recovery team and produced the first recovery plan for any endangered species in 1975 (Finkelstein et al. 2015). In 1972, the US Migratory Bird Treaty with Mexico was amended to include vultures and some other families of birds. The State of California listed the California condor as endangered in 1971, and California condors have been fully protected since 1953, prior to the establishment of the California ESA. In October 1996, USFWS designated a NEP for the California condor in portions of northern Arizona, southern Utah, and southern Nevada (61 *Federal Register* 54044, October 16, 1996). Therefore, the California condor is currently listed as an endangered species wherever it is found in the United States, except in portions of northern Arizona, southern Utah, and southern Nevada, where it is considered a NEP. It has no state status in Oregon, Washington, or Nevada.

POPULATION TRENDS AND BREEDING FACILITIES

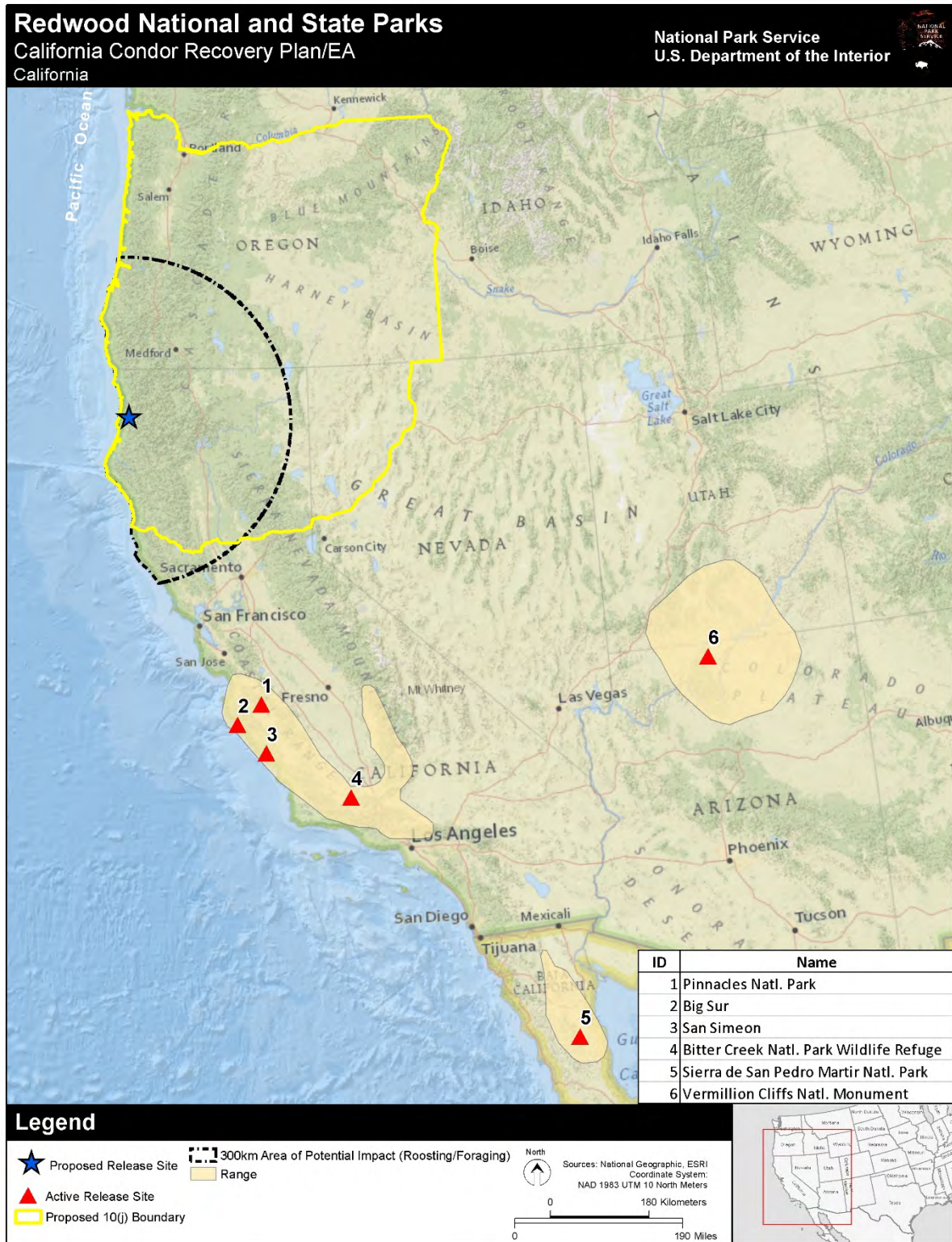
Although biologists had evidence that condor populations have been declining for more than a century, accurate estimates of the rate of decline and the size of the population were not available until the 1980s (Finkelstein et al. 2015). However, by extrapolating previous estimates of flock sizes recorded in different regions over the years, Snyder and Snyder (2000) estimated the population in 1950 at about 150 condors. Because of a rapidly declining population in the 1970s and 1980s, primarily resulting from lead poisoning and a variety of other causes in the wild, all remaining California condors in the wild were trapped and brought into captivity. The last wild condor was trapped in spring 1987 in southern California, becoming the last member to join a captive population of 26 other condors that had either been trapped in the wild or taken as eggs and hatched in captivity (Snyder and Snyder 2005).

By 1987, the only California condors still in existence were at the San Diego Wild Animal Park and the Los Angeles Zoo. First breeding of the species in captivity was achieved in 1988; since then, captive production has been substantial (USFWS 2013). From 1990 to 2002, 150 condors were produced, resulting in an average population growth of more than 12 condors per year (figure 10). Attempts to reintroduce the species to the wild have been underway in southern and central California since 1992, in Arizona since 1996, and in Baja California, Mexico, since 2002. Currently, four captive rearing facilities are involved in condor recovery—the Los Angeles Zoo, San Diego Wild Animal Park, Oregon Zoo, and the Peregrine Fund's World Center for Birds of Prey in Boise, Idaho. These breeding facilities provide condors to release at six condor release sites in western North America—Pinnacles National Park, Big Sur Coast, San Simeon, Bitter Creek National Wildlife Refuge in southern California, Vermillion Cliffs in northern Arizona, and El Parque Nacional San Pedro Mártir in Baja California, Mexico (figure 11). Although condors have successfully reproduced at all release sites, these attempts have not yet achieved self-sustaining wild populations largely because of the high mortality that can be traced to continued lead poisoning in the wild (Rideout et al. 2012). The population in Baja California has had fewer lead-related mortalities than the US populations to date.



SOURCE: USFWS 2018

FIGURE 10: CALIFORNIA CONDOR YEAR-END POPULATION TOTALS FOR BOTH CAPTIVE AND WILD POPULATIONS, 2010-2017



SOURCE: Rideout et al. 2012

FIGURE 11: CALIFORNIA CONDOR PROPOSED REDWOOD NATIONAL PARK / YUOK ANCESTRAL TERRITORY CONDOR RELEASE SITE IN RELATIONSHIP TO OTHER CURRENT CONDOR RELEASE LOCATIONS

The years 1983 and 1984 were critical ones in the formation of the captive California condor flock at the San Diego Wild Animal Park and Los Angeles Zoo. Two chicks and four eggs were taken from wild nests and transferred to the San Diego Wild Animal Park in 1983; all eggs hatched successfully. In 1984, six of eight eggs taken to this facility were hatched successfully. In addition, another chick was captured and added to the captive population in 1984. For the first time in the recorded history of the California condor, the overall population increased (USFWS 1996). The first successful breeding of California condors in captivity occurred at the San Diego Wild Animal Park in 1988. In 1989, four more chicks were produced at the San Diego Wild Animal Park and Los Angeles Zoo (USFWS 1996). The number of chicks produced by captive California condors has continued to increase annually since 1990. As of 2016, the current population was estimated at 446 individuals, including 276 condors in the wild and 170 in captivity (USDI 2016).



California condors in an existing release pen.

In a review of condor population ecology, Finkelstein et al. (2012) concludes that without continuing releases of captive-reared condors and clinical interventions for treating condors poisoned by lead, the reintroduced population, also known as the wild population, in California would begin to decline and could go extinct. Finkelstein et al. (2012) also concludes that elimination of lead-related mortality would allow the California condor population to grow, even in the absence of further reintroductions of captive reared condors. Woods et al. (2007) also state that the Arizona population would likely become a self-sustaining population if the lead-related mortality experienced by the condors could be prevented or greatly reduced.

BREEDING BIOLOGY

Nesting pairs of condors form in the late fall and early winter to initiate the nesting cycle (Snyder, Ramey, and Sibley 1986). These pairs stay together year-round usually until one of them dies. Several weeks before egg laying, pairs begin to visit several alternate nest sites within their territories. These nest inspections generally occur in January or February (Snyder, Ramey, and Sibley 1986). Timing for egg laying in southern California has ranged from late January through early April, with a clutch size of a single egg. If the egg is lost or fails to hatch, females may lay a replacement egg, usually a month after the loss. In some cases, a female may lay a third replacement egg if the second egg is lost (Snyder and Hamber 1985). Breeding facilities have used double and triple clutching to produce multiple young from a single captive pair in the same year, allowing them to increase the population more rapidly.

Both adults incubate the egg with incubation shifts usually lasting several days. The incubation period averages 57 days; therefore, chicks usually hatch in late March to early June. If hatching is successful, chicks develop on the nest for a period of 5 to 6 months and fledge from nests in early September to

mid-November. Both adults also brood and feed the young, with feeding occurring every 2 hours or so in the first week after hatching and reducing to about one feeding every 10 hours in the late stages of the nestling period (Snyder and Snyder 2000). Once able to walk, chicks will exercise their wings and explore areas outside the nest. The distances can vary depending on the nest type. Nest ledges allow chicks a larger area to explore on foot (up to 30 feet in some cases), while a redwood cavity or cave might only allow a few feet of movement (Ventana Wildlife Society, pers. comm. Burnett 2017a). The first fledging flights take place when chicks are 163 to 178 days old (Snyder and Snyder 2000).

Fledglings can take 6 to 12 months to find their own food and become independent of their parents. Fledglings depend on their parents until a year to year and half after hatching (Snyder and Snyder 2000). Once the young have fledged and have some flight experience, they begin to follow adults to the foraging areas and spend time with them at carcasses (Finkelstein et al. 2015). As fledglings become more independent, they begin to associate with other fledglings at carcasses and foraging grounds and join other immature condors and adults at communal roost sites. Through these associations, young condors become familiar with nest sites and foraging areas of the local population. The time it takes to learn the locations of favored foraging grounds, roosting sites, water sources, and potential nest sites over a large region may be one reason that condors take so long to sexually mature (6 to 8 years).

ROOSTING HABITAT

Condors spend most of their time perched, sunning, and preening. Condors choose roost sites where they can easily launch themselves into flight with just a few wing beats (i.e., large trees, snags, or isolated rocky outcrops and cliffs). Condors will often roost in communal groups and will return to the same roost sites year after year (USFWS 2017c).

FORAGING HABITAT

Because of the large energy expenditure required for such a large bird to maintain itself in flight with wing flapping, condors typically flap only during takeoff and landings. The condors therefore depend on uplift from thermals or from mountains and ridges to stay aloft. Thus, foraging is limited to those times of the day when wind speeds and thermal development are high enough to sustain extended soaring flight (Rivers et al. 2014).

Foraging habitat includes open grasslands and oak savanna foothills that support populations of large mammals such as deer and cattle (Snyder and Snyder 2005). The condor ranges over a variety of habitats and is not considered a habitat specialist. However, the species needs relatively open habitats to find food. Records of condors feeding in a forested environment, likely because of their inability to maneuver through trees and branches, are nearly absent (Snyder and Snyder 2005). Therefore, it is unknown how California condors would use the forested environment in the Pacific Northwest. Condors also forage in mixed woodland regions and along the coastline in central California (Burnett et al. 2013). In a review of the literature of the species, Finkelstein et al. (2015) reported that, historically, the condor likely foraged from coastline beaches to high montane meadows.

Variation in mean monthly home range size is significant across the annual cycle, with much smaller range sizes during the late autumn and early winter compared to late summer and early autumn months (Rivers et al. 2014). The most important attributes of foraging habitat include the presence of adequate food supplies in areas that are open enough to allow food to be readily seen or other scavengers to be observed and followed to food sources. In addition, condors are limited to areas with topography that allows reliable air movements for soaring flight. Condors in southern California were observed to avoid the bottom of the San Joaquin Valley likely because of the flat valley bottom and lack of topography, which would not provide optimal conditions for takeoff and extended soaring flight. Much of the condor

foraging in this region took place in grass and oak-savanna foothills of the San Joaquin Valley where individuals could launch themselves into flight by running down an open hill and where updrafts created by the steeper topography provided strong uplifts needed for soaring flights (Finkelstein et al. 2015).

NEST SITE AND NESTING HABITAT

Typically, the California condor nests in large cavities in cliffs or trees (Snyder, Ramey, and Sibley 1986; Burnett et al. 2013). Cliff nests have been in caves, potholes, overhung cliff ledges, and crevices in boulder piles. Most nests have some form of overhead cover. Tree nests have been found in large cave-like cavities in the top half of old-growth coastal redwoods or giant sequoia trees. Most nest sites have two elements in common: protection from the weather and a location on a steep slope or cliff to allow for easy take-offs and landings to the site by adults (Snyder, Ramey, and Sibley 1986). Multiple central California nests sites have been in fire-carved cavities of old-growth coastal redwoods (Burnett et al. 2013). A formal nest is not built and no material is brought to the nest sites, rather adults merely gather material near them as they sit in the egg position and form a loose disk of material (debris). Most nest sites have nearby roost sites for off-duty adults, either potholes or ledges in cliffs or large bare branches near the tops of tall trees. However, not all nest sites have roost sites nearby (Finkelstein et al. 2015). Pairs typically have more than one nest site, and alternate nest sites are sometimes located in multiple canyon systems of a region. Alternate nest sites can be miles apart (Snyder, Ramey, and Sibley 1986).

SOURCES OF MORTALITY

Rideout et al. (2012) reviewed and summarized all of the documented causes of mortality in free-ranging California condors from the date the reintroduction program was initiated in 1992 to the end of 2009 for all release sites, a period of 18 years. They summarized 135 total deaths in a total population of 352 condors (38% mortality rate). The most common mortality factors for juveniles and adults included trauma (accidents), starvation, intentional killing (4 killed by gunshot), infectious disease, and trash ingestion (Rideout et al. 2012). Of the 76 cases where cause of death could be reliably determined, trash ingestion by nestlings contributed to the highest percentage of deaths in this age class (73%; 8 of 11 condors), while lead toxicity was the most important mortality cause for both juveniles (26%; 13 of 50 condors) and adults (76%; 10 of 15 condors). They reported that trash ingested by young condors consisted of a variety of small items such as bottle caps, broken glass, plastic, and metal (Rideout et al. 2012). There are several hypotheses regarding the cause of this behavior, but the definitive drivers remain unclear (Houston, Mee, and McGrady 2007). It is noteworthy that management practices adopted in southern California in 2007 to reduce the amount of trash in and around condor nesting areas significantly reduced mortality to nestlings from trash ingestion (Finkelstein et al. 2015).

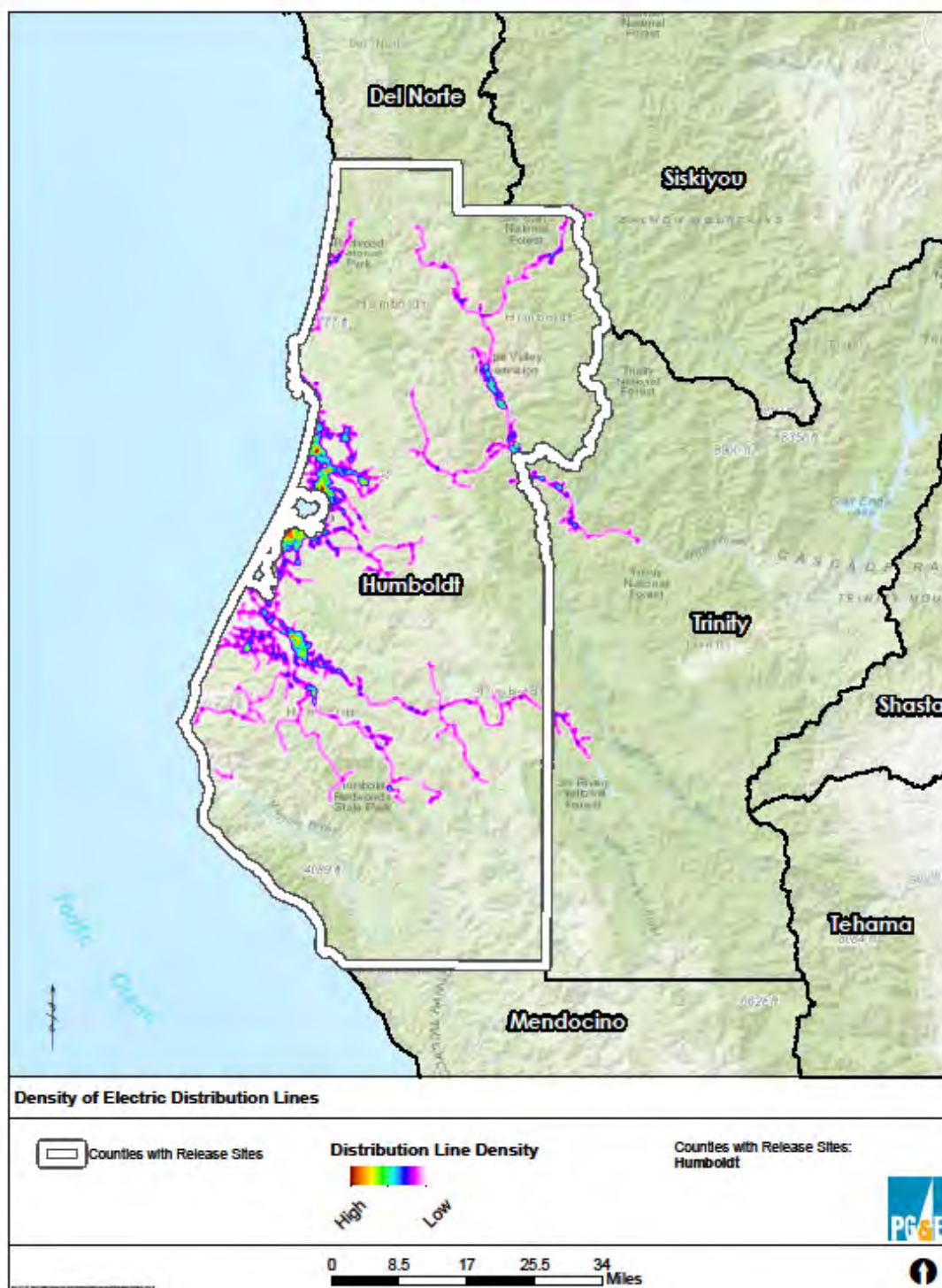
For cases of toxicity, Church et al. (2006) and Finkelstein et al. (2012) determined that the principal source of exposure was lead ammunition. The majority of trauma cases (n=22) were caused by collisions with powerlines or electrocution (n=11; Rideout et al. 2012). Beginning in 1994, mildly electrified replicas of power poles were established in captive breeding facilities to condition condors against landing on these structures (Mee and Snyder 2007). Replicas of power poles in captive breeding facilities give condors a mild shock when they landed on them (Mee and Snyder 2007). More recently, these replica power poles have been installed outside release facilities to provide similar aversion training to wild-fledged chicks. Power companies have also retrofitted lines with insulated powerlines by installing over 17,000 feet of tree wire to avoid mid-span electrocution and retrofitted power poles in areas of high use condor habitat to eliminate the possibility of electrocution when perching. Powerline-related mortalities continue to be documented subsequent to those described by Rideout et al. (Rideout et al. 2012; USFWS unpublished data). Studies have noted that the number of fatalities in Arizona and Baja California has been low, likely because of the presence of fewer powerlines in these more remote release sites. The current density of electrical distribution lines within PG&E's service territory surrounding the

proposed release/management facility in northern California and the distribution lines near the central California and southern California condor release sites, are shown in Figures 12, 13, and 14 respectively.

Other trauma cases included predation events from coyotes, mountain lions, and golden eagles (Rideout et al. 2012). In addition, common ravens also are known to take eggs and prey on nestlings when adults are not present on the nest.

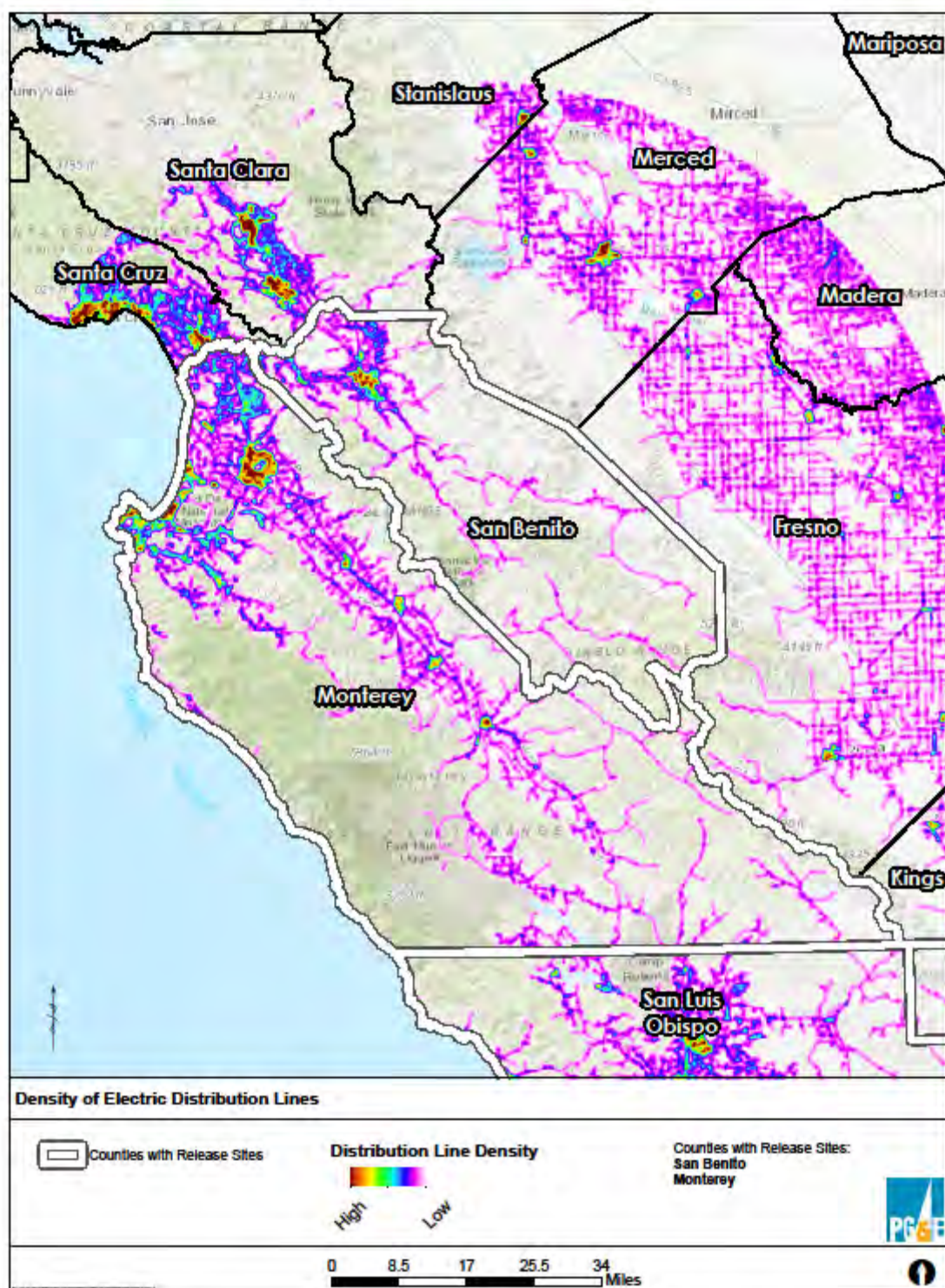
Rideout et al. (2012) conclude that the leading causes of mortality in released condors include lead toxicity, powerline collisions and electrocutions, trash ingestion, intentional killing, and West Nile virus infection. They suggest that the West Nile virus infection is an emerging mortality factor for young birds hatched in the wild. However, they conclude that the previous mortality factors most likely responsible for the decline in the historical condor population are still the most important mortality factors, and that unless mitigated to some degree, these same factors will continue to limit the establishment of self-sustaining populations in the wild.

A recent study in northern California was conducted to examine background concentrations of lead and other contaminants in scavenging condors to assess the feasibility of expanding the condor recovery program into the region (West et al. 2017). The study examined the background concentrations of lead and other contaminants in scavengers that are expected to feed on the same carrion on which California condors would feed. These scavengers included the common raven and turkey vulture, which were captured from 2009 to 2013 in coastal and near-coastal habitats from the western California-Oregon border south to Eureka, California. The study area included the region proposed for a new release site for California condors and is part of the California condor's historical range. The study examined contaminant (lead, mercury, zinc, and copper) concentrations in these two species over time as a function of distance from the coast and bird age. Ravens were also examined for contaminant concentrations over time as a function of hunting season. The study found blood-lead concentrations to be relatively low throughout the study area; however, the study also found that blood-lead concentrations in ravens captured during the nonhunting season increased nearly six-fold during the hunting season. West et al. also documented that turkey vultures had higher blood concentrations of lead, mercury, zinc, and copper compared to ravens. The distance from the coast was also an important factor; blood concentrations of mercury decreased with increasing distance from the coast and lead concentrations increased with distance from the coast for both species. This relationship is explained by the fact that mercury concentrations are known to be much higher in marine systems than terrestrial systems, while hunting with lead ammunition increases with distance from the coast likely due to increasing accessibility of public lands to hunters away from coastal areas (West et al. 2017).



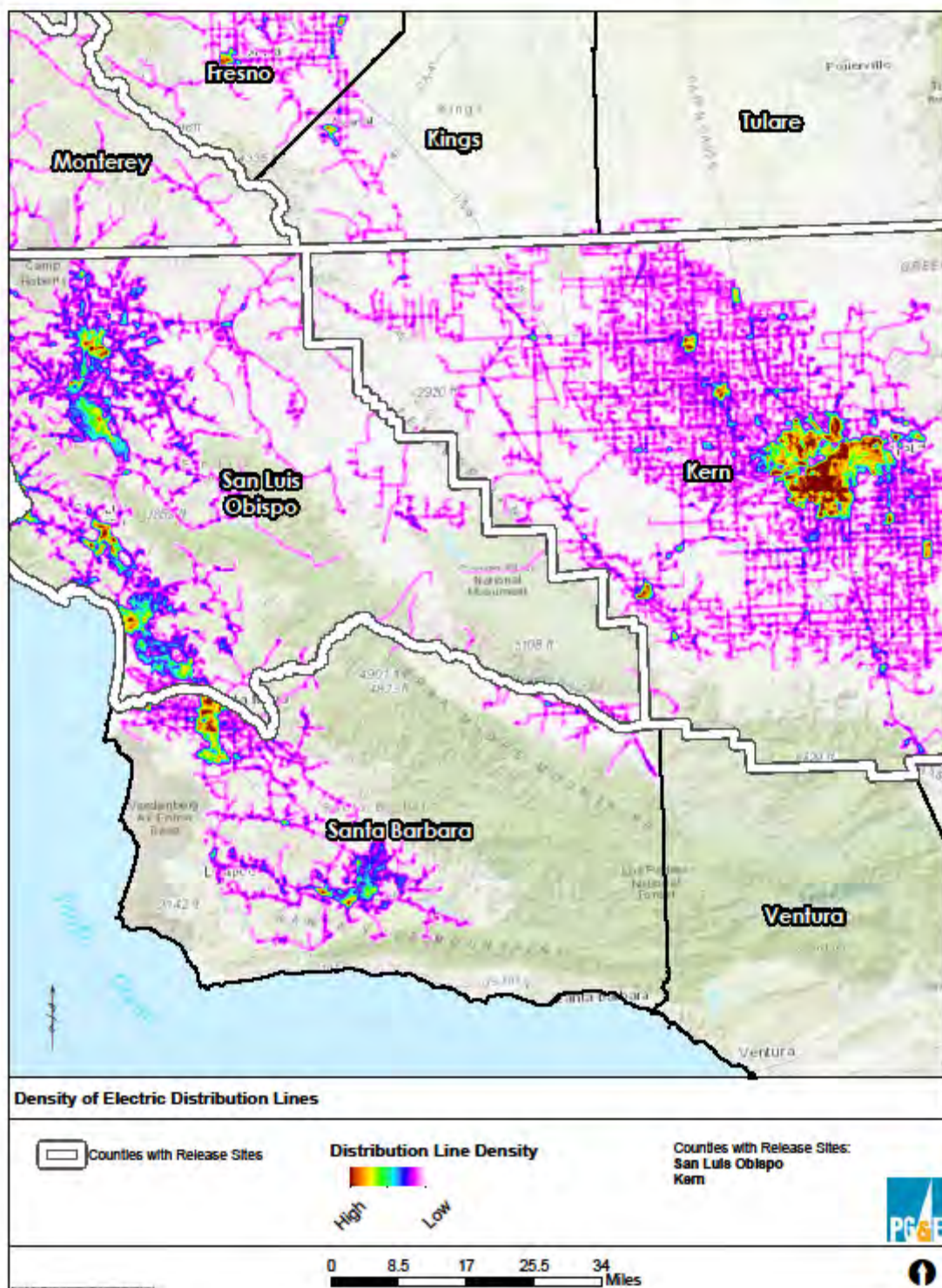
SOURCE: PG&E

FIGURE 12: CURRENT DENSITY OF ELECTRIC DISTRIBUTION LINES NEAR THE PROPOSED CONDOR RELEASE/MANAGEMENT FACILITY IN NORTHERN CALIFORNIA WITHIN PG&E'S SERVICE TERRITORY. HUMBOLDT COUNTY ELECTRIC DISTRIBUTION LINE DENSITY



SOURCE: PG&E

FIGURE 13: CURRENT DENSITY OF ELECTRIC DISTRIBUTION LINES NEAR CENTRAL CALIFORNIA CONDOR RELEASE SITES WITHIN PG&E'S SERVICE TERRITORY



SOURCE: PG&E

FIGURE 14: CURRENT DENSITY OF ELECTRIC DISTRIBUTION LINES NEAR SOUTHERN CALIFORNIA CONDOR RELEASE SITES WITHIN PG&E'S SERVICE TERRITORY. SAN LUIS OBISPO AND KERN COUNTY ELECTRIC DISTRIBUTION LINE DENSITY

A previous study on turkey vultures in Mendocino County, California, also found that concentrations of lead in blood increased significantly during the hunting season (Kelly and Johnson 2011). In another study by Kelly et al. (2011), the researchers found lead exposure in turkey vultures and golden eagles decreased after lead ammunition was banned in the range of the condor in southern California in 2008. Results from these studies indicate that exposure to lead in the scavenger community and condor populations would likely be lowered by hunters transitioning away from lead ammunition to lead-free ammunition for game harvest purposes (West et al. 2017). However, lead poisoning from ingestion of spent lead ammunition in carrion poses a substantial threat to the California condor (Kelly et al. 2014; Finkelstein et al. 2012). The West et al. (2017) study concludes that point source exposure of turkey vultures to lead and the fact that lead concentrations in ravens increased significantly during the hunting season indicates that the likelihood of condor exposure to lead sources if they are reintroduced into the region is relatively high. Considering that 48% of the free-flying condor population between 1997 and 2010 experienced lead exposures high enough to require clinical treatment indicates that lead is a major limiting factor to wild populations (Finkelstein et al. 2012).

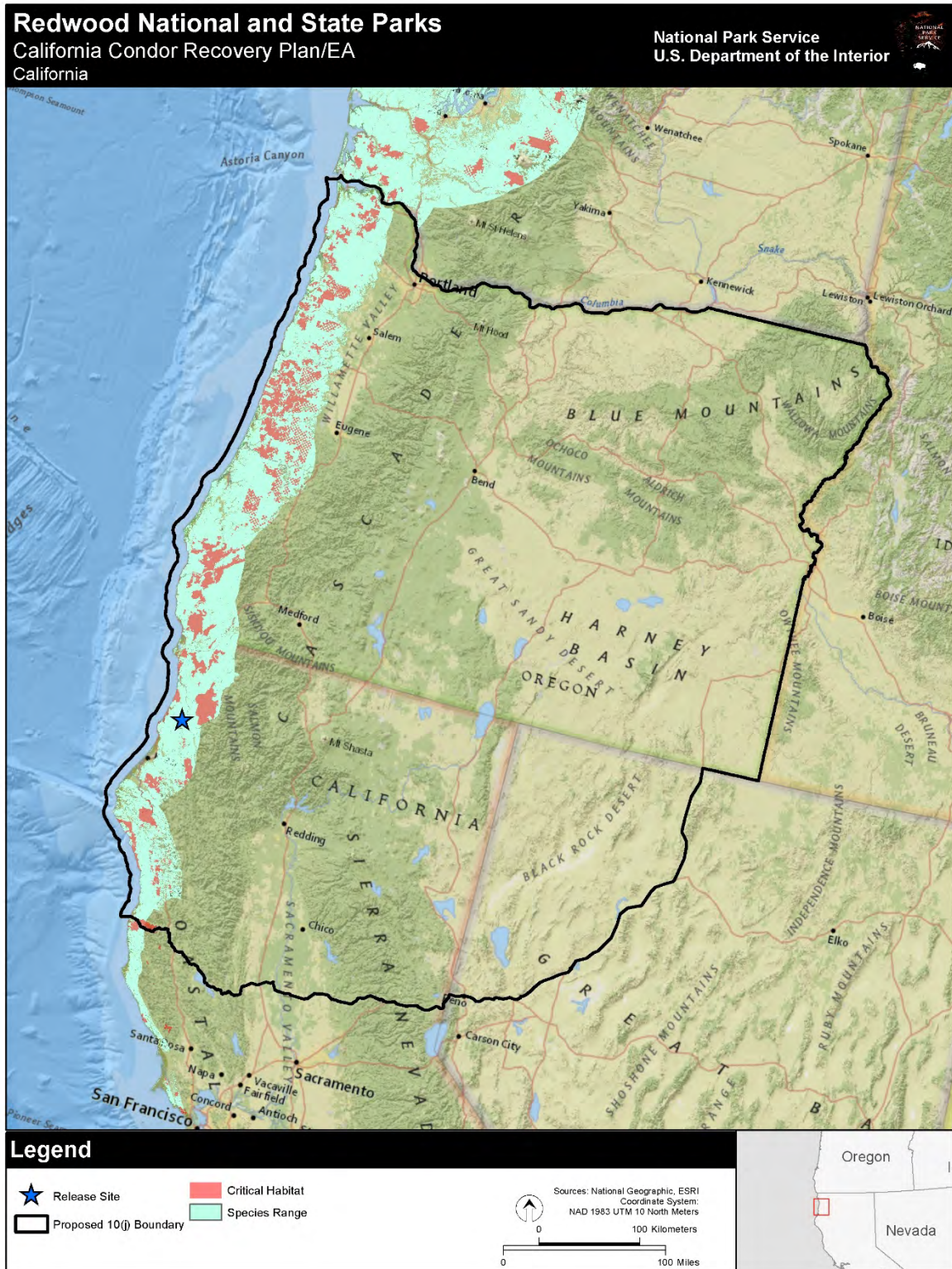
OTHER SPECIAL-STATUS SPECIES

As discussed in chapter 1, all special-status species considered were reviewed to determine which could be affected under the proposed action. As a result, the analysis in this EA is limited to just those species that are present at or near the proposed release site, could otherwise be affected at condor feeding areas, or be affected by condor management activities (see appendix A). These species include marbled murrelet, northern spotted owl, and Humboldt marten, which may occur near the release site in potential condor nesting and/or roosting habitat; and the western snowy plover, which may occur where condors are expected to feed at times (Meretsky et al. 2000; Snyder and Snyder 2000). Also retained for analysis are four species of plants (beach layia, beach pea, pink sand verbena, and Wolf's evening primrose) considered rare by the State of California that occur on beaches where condors may feed and where monitoring or observation may occur. These species are described below and are analyzed in the "Environmental Consequences" section. Other species were dismissed from further analysis due to a lack of suitable habitat at the proposed release/management facility or based on simple measures that could be taken to avoid impacts on these species during condor management activities.

MARBLED MURRELET

State and Federal Status

In 1992, USFWS listed the Oregon, Washington, and California populations of the marbled murrelet as threatened under the ESA. In addition, the marbled murrelet is state listed as threatened in Oregon and endangered in California (Desimone 2016; USFWS 2009). Critical habitat was designated for this species in 1996 and revised in 2011 (figure 15). The current designation consists of approximately 3,698,100 acres in Washington, Oregon, and California (USFWS 2017d). Nesting marbled murrelets are likely to occur throughout the park wherever old-growth, coniferous forests are available. Suitable nesting habitat for marbled murrelets occurs within 0.5 mile of the proposed condor release site (NPS 2013a) (figure 15). The closest critical habitat is about 10 miles northwest of the release site in Prairie Creek Redwoods State Park (USFWS, Parkinson pers. comm. 2017e; USFWS 2017d).



SOURCE: USFWS 2017f; USFS 2012

FIGURE 15: MARBLED MURRELET GEOGRAPHIC RANGE AND CRITICAL HABITAT DESIGNATIONS WITHIN THE CALIFORNIA CONDOR PROPOSED EXPERIMENTAL POPULATION BOUNDARY AND NEAR THE PROPOSED REDWOOD NATIONAL PARK / YUROK ANCESTRAL TERRITORY CONDOR RELEASE SITE

Habitat Use

The marbled murrelet forages on small fish and marine invertebrates close to shore during the summer, and it nests on large-limbed trees in mature and old-growth, mixed-conifer habitat up to 50 miles (80 km) inland from the coast (USFWS 2009). Habitat use appears to differ across its range, but consistently, suitable murrelet nesting habitat is defined as large core areas of old-growth forest with little edge, reduced habitat fragmentation, and near the ocean. The marbled murrelet lays eggs on large tree branches such as coast redwood, western hemlock, Sitka spruce, Douglas fir, and western red cedar that can support substantial moss, epiphytes, and debris to form platforms (Desimone 2016). Marine habitat characteristics vary throughout its range, but in Oregon and California, the marbled murrelet is found mostly in shallow, sheltered, nearshore marine environments characterized by bays, river mouths, sandy shores, and submarine canyons (Meyer, Miller, and Ralph 2002; Nelson 1997; USFWS 2009).

Nesting Ecology

During the breeding season, mid-March to August, the female lays a single egg; incubation is shared by both sexes, with incubation exchanges between adults occurring at dawn. Once hatched, both parents feed the chick daily with small forage fish that they carry to the nest. As the chick develops, parents often make multiple daily trips to the nest site with food. Most of these feedings occur near dawn, but others occur later in the morning and again sometimes near dusk. Daily movements of adult murrelets between nest sites and the ocean limits foraging to marine waters within commuting distance of the nest site. Some portions of marbled murrelet population have been found to remain at-sea near inland nesting areas year-round (Carter and Erickson 1992). Recent data show an increase in crows, ravens, and Steller's jays in the park (USFWS 2009). Murrelet nests near recreation areas and campsites tend to experience increased predation by corvids because of higher corvid densities in these areas. Corvid predation is a substantial threat to the survival of eggs and chicks. The chicks fledge 27 to 40 days after hatching and must avoid being grounded during their first direct flight to the ocean (Nelson 1997). If their first flight is not successful, grounded birds perish.

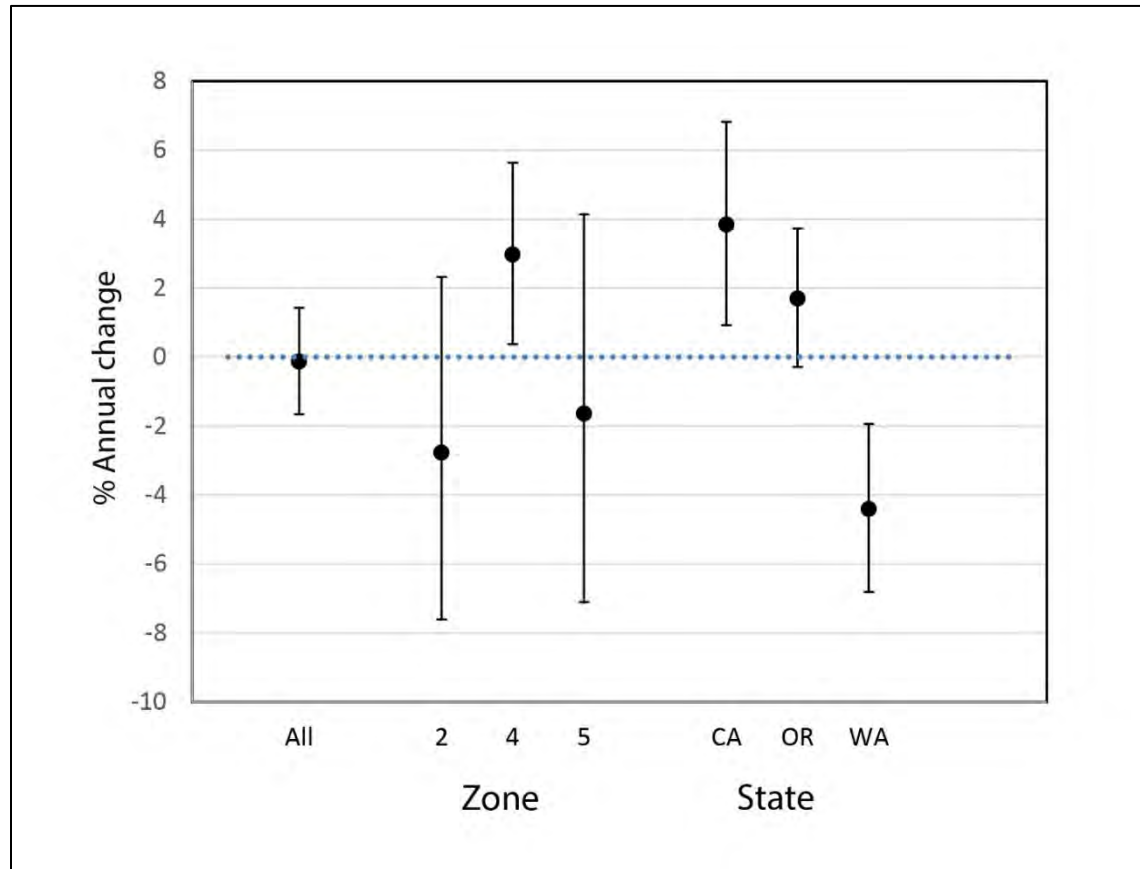
Population Trend

The breeding range of the marbled murrelet extends from the Aleutian Islands to central California (Ralph et al. 1995). The Washington, Oregon, and northern California populations of the marbled murrelet are a distinct population segment from the central California population. Population size has been estimated per conservation zone (1 through 6) using at-sea population surveys since the early 2000s. As of 2016, 24,100 birds were estimated for conservation zones 1 through 6 (Washington [zones 1 and 2], Oregon [zones 3 and 4], and California ([zones 4 thorough 6]) (Lynch et al. 2017). Although populations of some of the conservation zones in the three-state range (Washington, Oregon, and California) have been declining for years, evidence indicates an average annual population decline of 4.4% in Washington and an average population increase of 1.7% and 3.8%, respectively for Oregon and California (figure 16). Current data indicate a likely positive trend in conservation zone 4 (from Shelter Cove, California, north to Coos Bay, Oregon), but the confidence intervals overlap zero; therefore, the overall trend for this population is still uncertain. From 2013 population estimates, the density estimates for conservation zone 4 was 5.2 murrelets per square kilometer (2 per square mile) (Falxa et al. 2016).

Threats

Threats to the murrelet population include habitat loss from logging and coastal development and mortality in gill-net fisheries (USFWS 1997). Oil spills also contribute to direct mortality and localized impacts on prey availability and marine habitat disturbance. Between 1977 and 2008, conservation zones 3 and 4 experienced a loss of up to 88 birds from oil spills (USFWS 2009). Predation of murrelet eggs or

chicks by corvids is a threat, especially where nests are located in habitat that is in or near recreation areas and campsites where corvid numbers tend to be high. Other threats include predation of adult murrelets by raptors, predation of eggs or chicks by mammals, marine pollution, terrestrial noise and disturbance near nests, and disease.



SOURCE: Lynch et al. 2017

FIGURE 16: MARBLED MURRELET POPULATION AVERAGE ANNUAL RATE OF CHANGE WITH 95% CONFIDENCE INTERVALS, 2000–2015

NORTHERN SPOTTED OWL

State and Federal Status

The northern spotted owl was federally listed in 1990 as a threatened species in Washington, Oregon, and California. It is also state listed as threatened in California and Oregon. Critical habitat was designated for the northern spotted owl in 1992 and most recently revised in November 2012 (USFWS 2012a). USFWS designated 9,577,969 acres of critical habitat in 11 units and 60 subunits in California, Oregon, and Washington (USFWS 2017g) (figure 17). Historically, 36 to 40 northern spotted owl territories occurred in the park. However, the last known nesting pairs were recorded in 2008 in Del Norte Coast Redwoods State Park and Redwood National Park. The proposed condor release site is within 0.25 mile of suitable (unsurveyed) northern spotted owl foraging habitat (NPS 2015d). The nearest critical habitat is about 8 miles southeast of the release site in Six Rivers National Forest (USFWS, Parkinson, pers. comm. 2017e; USFWS 2017g) (figure 17).

Habitat Use

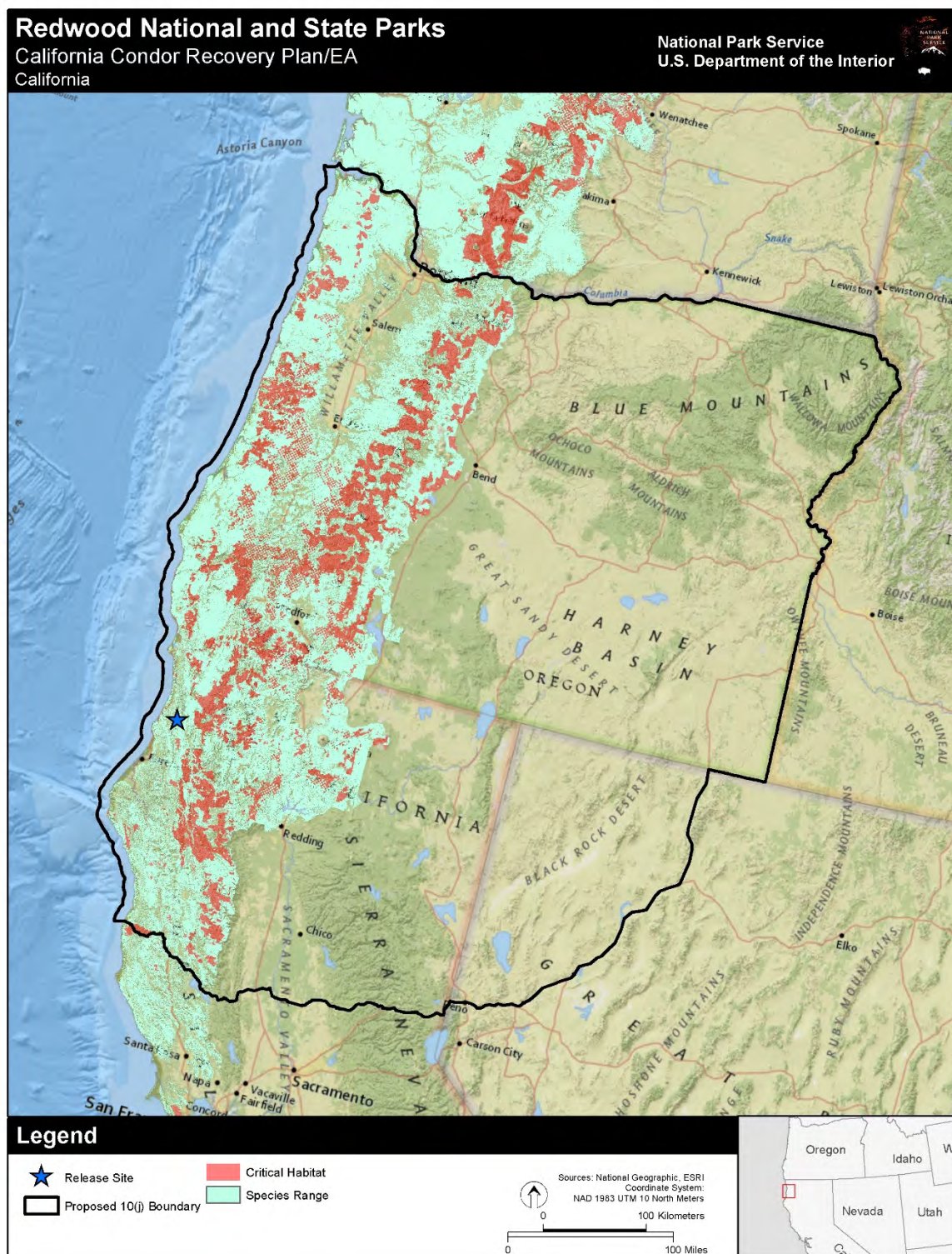
The northern spotted owl is generally associated with mature and old-growth coniferous forests. However, in northern California, northern spotted owls also occur in young, second-growth forests with similar characteristics as mature forests (USFWS 2011). Suitable habitat characteristics contain a high degree of structural complexity, including high canopy closure (>60%), multi-layered canopy, large diameter trees, large snags, and large downed wood (Gutiérrez et al. 1998). Foraging habitats vary more than nesting and roosting habitats and are characterized by >40% canopy closure and complex structures (Thomas et al. 1990). In northern California, a positive relationship exists between northern spotted owl habitat edge and reproductive success because of what is believed to be the availability of a wider range of potential prey species that occupy edge habitats (Sustainable Ecosystems Institute 2004).

Nesting Ecology

The northern spotted owl needs large trees with complex crowns with existing nesting structure such as platform of sticks, including nests of other species or cavities in mature or old-growth conifers. Female northern spotted owls typically lay eggs in late March or April; however, the timing of nesting and fledging varies with latitude and elevation (Forsman, Meslow, and Wight 1984). In consultations, the northern spotted owl breeding season was defined as February 1 through July 31. The incubation period averages 30 days, and the nestling period lasts from 34 to 36 days (Gutiérrez et al. 1995). Fledging usually occurs between mid-May and the end of June. Juvenile northern spotted owls depend on their parents until they can fly and hunt on their own. Parental care continues after fledging into September (Forsman, Meslow, and Wight 1984). Greater habitat quality and warmer weather during the winter and early nesting season has been shown to positively affect northern spotted owl reproduction and survival rates (Franklin et al. 2000). However, droughts occurring during the growing season can negatively affect survival because drier conditions influence primary production in forests, food availability, and the population sizes of small mammals (Glenn 2009). Dispersal of juveniles typically begins in September and has been associated with a high rate of mortality, including starvation, predation, and accidents (Miller 1989; Forsman et al. 2002).

Population Trend

The northern spotted owl is one of three subspecies of spotted owls in North America. Its historical range is believed to have included most forests throughout southwestern British Columbia, western Washington and Oregon, and northwestern California as far south as the San Francisco Bay. Since 1990, several studies estimating demographic parameters indicate that resident northern spotted owls are not reproducing sufficiently to be self-sustaining and that populations in Washington, Oregon, and California are sharply declining (USFWS 1990; Anthony et al. 2004). Causes for this decline are not well understood, but a variety of reasons exists, such as displacement by barred owls (*Strix varia*), loss of habitat to wildfire, logging, insects and disease, and changes in forest succession (Anthony et al. 2004). The range of the northern spotted owl (figure 17) is divided into 12 physiographic provinces based on recognized landscape subdivisions exhibiting different physical and environmental features. In 1994, 5,431 known site-centers of northern spotted owls occurred in those 12 provinces (USFWS 2011). The current number of occupied owl locations is unknown because not all areas are surveyed and assessed on a regular basis. In 2004, the number of recognized occupied sites by Washington Department of Fish and Wildlife was 1,070 (USFWS 2011). However, demographic data using population change estimate indicate that mean annual rates of population change declined from 1.2% to 8.4% per year depending on the study area. The weighted mean estimate of population change (λ) for all study areas was 0.962, indicating an estimated range-wide decline of 3.8% per year from 1985 to 2013 (Dugger et al. 2016).



SOURCE: USFWS 2017g; Glenn et al. 2016

FIGURE 17: NORTHERN SPOTTED OWL GEOGRAPHIC RANGE AND CRITICAL HABITAT DESIGNATIONS WITHIN THE CALIFORNIA CONDOR PROPOSED EXPERIMENTAL POPULATION BOUNDARY AND NEAR THE PROPOSED REDWOOD NATIONAL PARK / YUOK ANCESTRAL TERRITORY CONDOR RELEASE SITE

The northern spotted owl and the barred owl are closely related species that historically had separate geographic ranges. The barred owl historically only occurred in the eastern United States. From the 1960s to the present, barred owls expanded their range into Washington, Oregon, and California. After barred owls became common in the park, the northern spotted owl became very rare in the parks as nesting pairs were displaced and replaced by the barred owl. The barred owl is slightly larger and more aggressively territorial than the northern spotted owl, and it has a higher diet diversity, enabling it able to outcompete the smaller, more specialized northern spotted owl. In 2008, only two nests were known to produce fledglings in the park, one in Del Norte Coast Redwoods State Park and one in the Miller Creek tributary of Redwood Creek (NPS, pers. comm. Schmidt 2017a), and the last spotted owl juvenile observed in the park was in 2010 in the Coyote Creek territory (NPS 2010a).

Threats

Northern spotted owl populations are negatively affected by the loss of forests from logging, especially the loss of preferred habitat in late-successional and old-growth forests (USFWS 2011). When spotted owls are forced to live in small patches of forest, they become more susceptible to starvation, predation, or further loss of habitat from natural destruction such as windstorms. Barred owls have become an encroaching competitor and have caused a decline in spotted owls across most of their range. As noted above, barred owls are larger than spotted owls and more aggressive and have a broader diet, which makes them more resilient to declines in habitat quality. Hybridization between barred and spotted owls has also occurred.

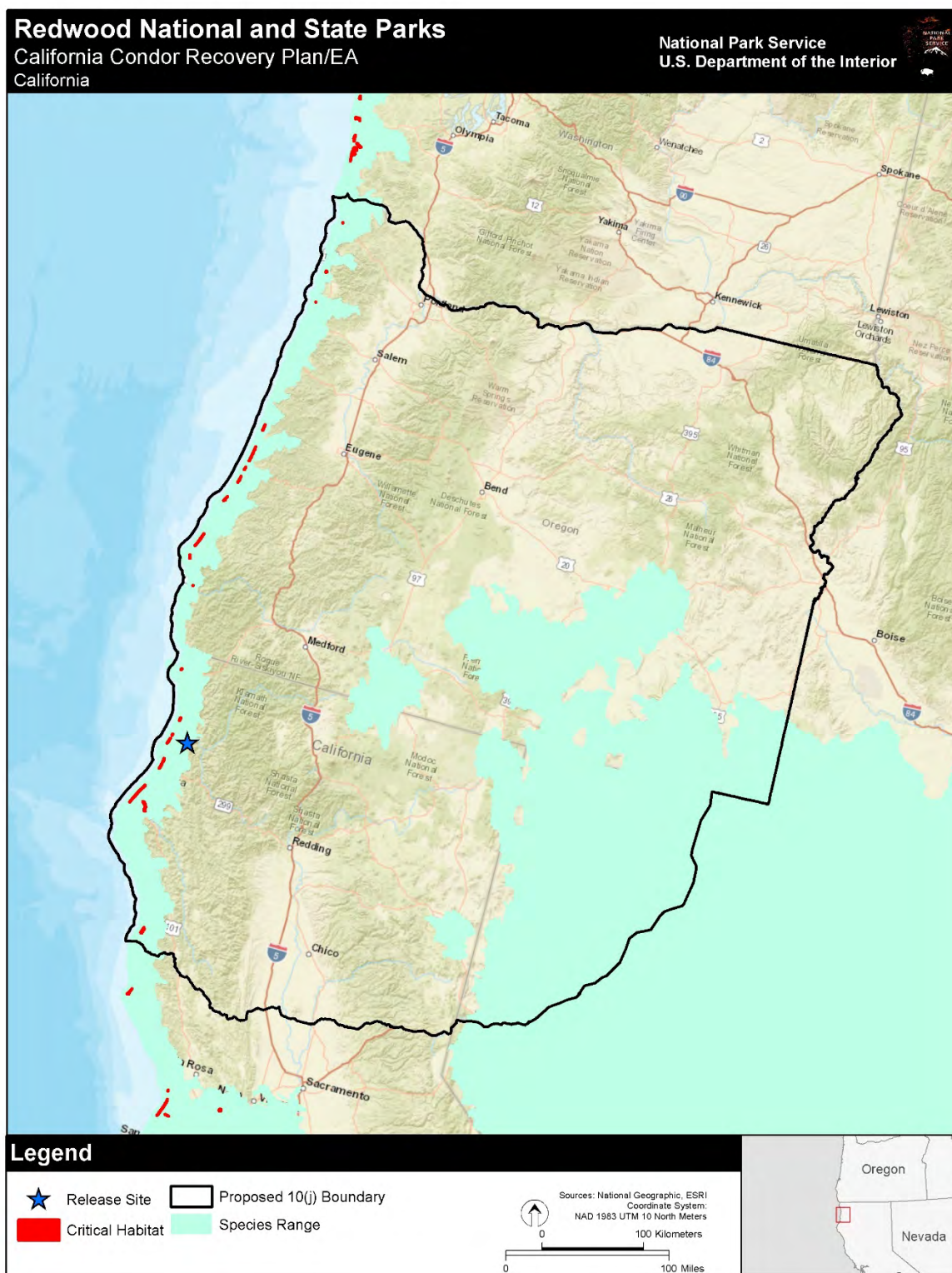
WESTERN SNOWY PLOVER

State and Federal Status

The western snowy plover has been federally listed as threatened since 1993 (USFWS 1993). This species is listed as a species of special concern in California. In 2005, USFWS also designated 32 areas of nesting habitat along the coasts of California, Oregon, and Washington as critical habitat (USFWS 2005) (figure 18). Along the park's shorelines, surveys are conducted annually to assess snowy plover presence/absence using established protocols. Locally, breeding has been restricted to a few beaches and river gravel bars along the Eel River in Humboldt County (Sakai 2003; Feucht et al. 2016). However, since 2011, no plovers have nested on gravel bars in Recovery Unit 2 in northern California (composed of Mendocino, Humboldt and Del Norte Counties) (Feucht et al. 2016). The highest quality habitat on beaches occurs along certain sections of Gold Bluffs Beach and the beach north of Freshwater Lagoon Spit; a portion of Gold Bluffs Beach is included in designated critical habitat for the plover (USFWS 2017h).

Habitat Use

The western snowy plover forages in large areas of sandy beach and dunes above and below the high-tide line, while it breeds above high-tide in barren to sparsely vegetated terrain. Plovers also use sand spits, beaches at creek and river mouths, salt marshes, lagoons, and estuaries as their main nesting habitat (USFWS 2007). Ten critical habitat areas for the western snowy plover are protected just within northern California (Del Norte to Humboldt Counties), offering both breeding and wintering habitat. California State Parks manage nearly 25% of the state's coastline. Many of these coastal lands provide important habitat for the western snowy plover. Surveys, using established protocols are conducted bimonthly or monthly in the park to assess the presence/absence of snowy plovers. California State Parks, NCRD, produces an annual report on its efforts to protect and restore western snowy plover populations (California State Parks 2017a). The NCRD is located within western snowy plover Recovery Unit 2, which includes Del Norte, Humboldt, and Mendocino Counties. In recent years, most plovers in Recovery Unit 2 bred and wintered in Humboldt County along ocean beaches (Feucht et al. 2016).



SOURCE: USGS 2011

FIGURE 18: WESTERN SNOWY PLOVER GEOGRAPHIC RANGE AND CRITICAL HABITAT DESIGNATIONS WITHIN THE CALIFORNIA CONDOR PROPOSED EXPERIMENTAL POPULATION BOUNDARY AND NEAR THE PROPOSED REDWOOD NATIONAL PARK / YUROK ANCESTRAL TERRITORY CONDOR RELEASE SITE

Humboldt County is unique in that it also hosted nesting plovers along the Eel River gravel bars from 1996 to 2010. However, since 2011, no plovers have nested on gravel bars in Recovery Unit 2 (Feucht et al. 2016). The 2017 annual report states that the wintering population has increased from each previous year since 2009 and was the highest recorded in the NCRD in 2015. This steady increase was attributed to the return of adults and yearlings and to immigration (Feucht et al. 2016). Continued efforts to implement predator control, restrict human activity near nesting areas, and restore nesting and wintering habitat will further encourage similar positive trends throughout the range of the western snowy plover. Prior to 2004, the most recent confirmed record of western snowy plovers in the park was in 1981 at Gold Bluffs Beach in Prairie Creek Redwoods State Park (USFWS 2012b). In 2004, at least five different individual snowy plovers were present at Gold Bluffs Beach, and a nesting pair fledged a chick in the same year. Since 2004, snowy plovers have returned to Gold Bluffs Beach in winter and have initiated nests (all failed) in four breeding seasons, including 2017. Plovers were detected at five of six beaches in the NCRD in 2016 (Tolowa Dunes, Gold Bluffs Beach, Stone Lagoon Beach, Big Lagoon Beach, and Little River State Beach), and breeding was confirmed at three sites (Stone Lagoon Beach, Big Lagoon Beach, and Little River State Beach) (California State Parks 2017a). Redwood National and State Parks has approximately 1,029 acres (412 hectares) of beach habitat that are currently considered potentially suitable for snowy plovers (NPS 2013a).

The Oregon Biodiversity Information Center, in cooperation with federal and state agencies, completed its 27th year of monitoring the distribution, abundance, and productivity of snowy plovers along the Oregon coast within Recovery Unit 1 during the 2016 breeding season (from April 5 through August 31, 2016) (Lauten et al. 2016). Recovery Unit 1 includes Oregon and Washington. From north to south, the Center surveyed and monitored plover activity at Sutton Beach, Siltcoos River estuary, the Dunes Overlook, North and South Tahkenitch Creek, Tenmile Creek, Coos Bay North Spit, Bandon Snowy Plover Management Area, New River habitat restoration area and adjacent lands, and Floras Lake. The Center estimated the resident number of snowy plovers in Oregon at 518 individuals. The 2016 annual report states that the adult plover population was the highest estimate recorded since monitoring began in 1990. Staff monitored 694 nests in 2016, and the overall nest success was 25%. Nest failures were attributed to unknown depredation, unknown cause, harrier depredation, corvid depredation, mammalian depredation, gull depredation, one-egg nest, wind/weather, abandonment, overwashing, and infertility (Lauten et al. 2016).

Nesting Ecology

The nesting season extends from early March through late September. The western snowy plover often returns to the same locations year after year. It nests in open, shallow depressions on sparsely vegetated beaches, sand spits, or sandy areas above the high tide. However, in coastal Oregon, it nests in areas with significantly greater cover of driftwood and vegetation rather than randomly selected beach sites (Wilson-Jacobs and Meslow 1984). The western snowy plover nesting habitat is constantly changing because of the influence of wind, waves, storms, and encroaching and invasive plants. Egg laying begins in March in the coastal areas of the park (Colwell et al. 2005) and as early as mid-March in coastal Oregon (Wilson-Jacobs and Meslow 1984). Both adults incubate the eggs (average clutch=3) for approximately 27 days (50 CFR Part 17). The female incubates the eggs during the day, while the male defends the nest, and the male incubates the eggs at night, while the female forages (Warriner et al. 1986; Kosztolányi and Székely 2002). Chicks are especially vulnerable to predation after hatching and before flight, which typically occurs four to five weeks after hatching (Warriner et al. 1986). Corvids and other predators prey on plover eggs and chicks and can adversely impact plover reproductive success (Colwell et al. 2014).

Population Trend

The western snowy plover was once widely distributed along the coastal areas of Washington, Oregon, and California and into southern Baja California, Mexico. Because human activities have negatively affected their nesting habitat and reproductive success, the western population of the snowy plover has declined by 40% in Washington and by 65% in Oregon, and has significantly declined in breeding locations in California (figure 18). The western snowy plover population consist of both migrants and year-round residents (Warriner et al. 1986). Birds nesting on the Oregon coast have wintered in California as far south as San Diego County (Page et al. 2009).

Threats

The population decline of western snowy plover is attributed to poor reproductive success caused by human disturbance, predation, and inclement weather, combined with permanent or long-term loss of nesting habitat from the encroachment of nonnative European beachgrass and urban development (58 *Federal Register* 12864–12874). Chicks are especially vulnerable to predation during the four weeks following hatching when they cannot fly. Corvids as well as other predators such as gulls, foxes, raccoons, and skunks can prey on plover eggs and chicks and can have a strong negative impact on plover reproductive success (Colwell et al. 2014).

HUMBOLDT MARTEN

State and Federal Status

CDFW designated the Humboldt marten as a species of special concern and it is a California state candidate as endangered or threatened. The Humboldt marten was a candidate for listing under the ESA; however, in April 2015, USFWS determined that listing was not warranted at that time (USFWS 2015). In a subsequent lawsuit, filed by both the Center for Biological Diversity and the Environmental Protection Information Center, a federal judge overturned the USFWS's decision, ruling in a motion that USFWS should reconsider and reevaluate the Humboldt marten's need for protection under the ESA. Humboldt marten have not been detected in the area of the park since early-mid last century. The nearest recent detection was the 1996 detection in the Six Rivers National Forest to the east of the park (Zielinski et al. 2003). Subsequently, there were marten detections in Prairie Creek Redwoods State Park in 2010, 2012, and 2017 (California State Parks 2014, 2017b). Whether these detections are indicative of a small marten population in the park or represent just one or two individuals is unknown at this time.

Habitat Use

A study by Buskirk and McDonald (1989) stated that the average home range of an American marten was 3 to 4 times larger than predicted for a carnivore of this same body size and that the size of the marten home range was about 30 times larger than predicted for an herbivorous mammal of a similar body size. Other habitat attributes that may be important to the Humboldt marten are stand shape; area of stand interiors; amount of edge; stand insularity; habitat corridors and connectivity; and complex, structural habitat features near the ground (Buskirk and Ruggiero 1994; Buskirk and Zeilinski 1997; Slauson and Zielinski 2009). The historical range of the Humboldt marten is closely associated with late-successional coastal redwoods at low elevation (Slauson and Zielinski 2003) and white fir at higher elevation. However, the Humboldt marten is rarely detected in sites with more than 25% of open areas, even if forest connectivity is present (Hargis, Bissonette, and Turner 1999). Buskirk and Powell (1994) found that martens do not use suitable habitat patches in highly fragmented forests separated by open areas of serpentine knobcone pine. Slauson, Zielinski, and Holm (2003) found that shrub-dominated serpentine

habitats provide suitable habitat structure and Humboldt martens use them for resting, denning, and foraging.

Denning Ecology

Dense shrub layers in late-successional forest provide suitable resting and denning structures and cover and protection from predators. Dens are typically located in cavities of large logs, snags, or live trees and are located in closed-canopy forest cover. Effective breeding does not generally occur until age three, and a female produces, on average, fewer than three young per litter, with one litter per year (Strickland et al. 1982). The gestation period lasts from seven to nine months, and birth occurs in early spring. By late summer or autumn (four to six months of age), the young leave the mother and disperse (Johnson 2008).

Observational Records and Population Trend

The Humboldt marten, a sub-species of American marten, was historically known to range from the southern Oregon border through Sonoma County in California and within 50 miles of the coast (Hamlin et al. 2010). However, the Humboldt marten was not detected in surveys prior to 1996, and incidental sightings have been rare over the last 50 years, causing some biologists to conclude that it is extinct or only present in very low numbers (Zielinski and Golightly 1996). However, tracks and a photograph of a marten were collected in 1996 within its historical range (Buskirk and Zeilinski 1997). Current survey data suggest that fewer than 100 Humboldt marten may remain in Humboldt and Del Norte Counties in northern California. The Humboldt marten has been extirpated from more than 99% of its historical range in California (Hamlin et al. 2010), and the lone surviving California population is perilously small and declined by 42% from 2000 to 2008 (Slauson et al. 2009) (figure 19).

Threats

Significant ongoing threats to the remaining Humboldt marten population include loss, degradation, and fragmentation of late-successional forests and of key habitat elements from timber harvest, wildfire, and fuels reduction projects (Hamlin et al. 2010). Roads may also fragment suitable habitat and provide corridors for movement of potential predators, while some management activities may increase populations of such predators (e.g., bobcats and coyotes) and place additional pressure on the remaining marten population. While direct trapping of Humboldt martens has not been legal for several decades, incidental capture of martens while targeting other species may still be a risk, and should be monitored to assess that risk. Trapping of martens remains legal in coastal Oregon.



SOURCE: Hamlin et al. 2010

FIGURE 19: HUMBOLDT MARTEN GEOGRAPHIC RANGE WITHIN THE CALIFORNIA CONDOR PROPOSED EXPERIMENTAL POPULATION BOUNDARY AND NEAR THE PROPOSED REDWOOD NATIONAL PARK / YUROK ANCESTRAL TERRITORY CONDOR RELEASE SITE

RARE COASTAL PLANTS

Beach Layia

The beach layia is a small, slightly succulent annual in the Madieae tribe of the Asteraceae, which is sometimes considered a subtribe of the Heliantheae (sunflower tribe). The species was listed as endangered in California in 1991 and federally listed as endangered in 1992 (57 *Federal Register* 27848–27859). The species occupies dune-mat communities and requires open sand created by shifting dunes. It germinates during the rainy season from fall to mid-winter, blooms in the late winter through spring, and sets seed before the dry season. Plants are low growing (usually <6 inches tall), can be unbranched to somewhat branched, are generally prostrate, and may spread more than 15 inches in diameter. The plant has sticky fleshy leaves, short white-colored ray flowers, and bristles around the summit of the one-seeded fruit. It tends to grow in patches, and population numbers vary annually, both spatially and temporally. Associated plant species include beach silver top, beach pea, dunegrass, sand verbena, beach strawberry, and beach-bur. Large driftwood logs in its vicinity may provide important microhabitat for beach layia (NPS 2013a).

Beach layia is endemic to California and historically was restricted to widely scattered, isolated populations within 15 coastal dune locations from Santa Barbara County to Humboldt County (NPS 2013a). The largest populations are known from Humboldt County (USFWS 1998). Extirpated populations at the mouth of the Little River were thought to represent the northernmost occurrence of the species until a population was discovered on Freshwater Lagoon Spit in the park in July 1999. The discovery of this population resulted in a range expansion of 35 miles. After the Freshwater Lagoon Spit population was discovered, additional surveys for beach layia were conducted in all potentially suitable habitat in the park, but no additional populations have been detected to date (NPS 2013a).

The known population on Freshwater Lagoon Spit is monitored and mapped annually. Five major sub-clusters comprise the population at this location. The number of total plants on the spit varied from a high of 11,110 in 2002 to 577 in 2010, which was the lowest number since monitoring began in 2000 (NPS 2013a). The number of plants has been declining each year from the earlier high numbers (e.g., 2,638 plants in 2008 and 3,525 in 2009); however, the very low number in 2010 contrasts sharply. Reasons for the chronic decline over the years may be attributable to encroachment by nonnative annual grasses (e.g., *Briza maxima*) and native red fescue. However, the precipitous decline in plant numbers in 2010 was likely a result of the cold, wet spring weather; numbers are expected to increase in coming seasons with improved spring weather conditions (NPS 2013a).

Threats to the beach layia in the park include illegal vehicle access and off-road vehicle use on Freshwater Lagoon Spit. Although Freshwater Lagoon Spit has been restored to a native dune-mat community, reinvasion by European beach grass, iceplant, and yellow bush lupine is of concern because of the stabilization of sand dunes (NPS 2013a).

In the park, those beaches that remain open year-round are not likely to be inundated during high tides and have a dune complex that provides potential habitat for beach layia. Approximately 669 acres of beach habitat in the park meet these criteria. Freshwater Lagoon Spit and the beach north to the Redwood Creek estuary constitute approximately 79 acres of this habitat (NPS 2013a). The remaining potentially suitable habitat occurs north of Major Creek to Carruther's Cove along Gold Bluffs Beach; the best potential habitat is located at the north end of Gold Bluffs Beach from Ossagon to Carruther's Cove. However, the widespread occurrence of European beach grass on this beach has reduced the quality of the habitat for beach layia. In places where the exotic beach grass was removed from Freshwater Lagoon Spit, beach layia populations have responded favorably by occupying restored areas of the beach (NPS 2013a).

Beach Pea

Beach pea, a legume native to the temperate coastal areas of North and South America, has a California Rare Plant Rank of 2 by the California Native Plant Society (CNPS) because it is common beyond the boundaries of California. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the ESA. Until 1979, a similar policy was followed in California; however, after the passage of the Native Plant Protection Act in 1979, plants were considered for protection without regard to their distribution outside the state (CNPS 2017). All of the plants constituting California Rare Plant Rank 2 meet the definitions of section 1901, chapter 10 (Native Plant Protection Act), or sections 2062 and 2067 (California ESA) of the California Department of Fish and Game Code and are eligible for state listing (CNPS 2017). This species has a California State Rank of S2 (imperiled) because of its rarity, restricted range, and few populations—all of which make it vulnerable to extirpation in California (CNPS 2017).

Beach pea is an herbaceous perennial plant that grows trailing stems from 20 to 31 inches long, typically on sand and gravel storm beaches. The leaves are waxy glaucous green, 2 to 4 inches long, pinnate, with 2 to 5 pairs of leaflets, and the terminal leaflet is usually replaced by a twining tendril (CNPS 2017). The flowers are broad with a dark purple standard petal and paler purple wing and keel petals; they are produced in racemes of up to 12 flowers (CNPS 2017). Its typical habitat is similar to the beach layia and includes sandy or stony seashores and other coastal locations. The species has been found in Del Norte and Humboldt Counties and is known from 9 locations in California (CNPS 2017). The species faces threats from nonnative invasive plants, vehicle traffic on the beaches, and possible threats from trail maintenance and foot traffic.

Pink Sand Verbena

The pink sand verbena has a California Rare Plant Rank of 1B, which means it is rare throughout its range in California. All of the plants constituting California Rare Plant Rank 1B meet the definitions of section 1901, chapter 10 (Native Plant Protection Act), or sections 2062 and 2067 (California ESA) of the California Department of Fish and Game Code and are eligible for state listing (CNPS 2017). Pink sand verbena is listed in California as Critically Imperiled (S1) because of extreme rarity, making it especially vulnerable to extirpation in California. The species has been found in Del Norte and Humboldt Counties and is known from 57 locations in California (CNPS 2017). This species is state listed as endangered in Oregon. Pink sand verbena is generally found in sandy, well-drained soil in areas with low precipitation. It can become a striking carpet-like groundcover in undisturbed areas after winter rains. Pink sand verbena tolerates seaside conditions and is found on the west coast of North America from British Columbia, Canada, to Baja California, Mexico. Pink sand verbena is typically found on beaches and sand dunes, below the coastal sage scrub, and blooms throughout most of the year. This species is also threatened by vehicles, nonnative plants, and foot traffic (CNPS 2017).

Wolf's Evening Primrose

Wolf's evening primrose also has a California Rare Plant Rank of 1B and is known to occur in 29 locations in California, including Del Norte and Humboldt Counties (CNPS 2017). It is state listed as threatened in Oregon. Wolf's evening primrose, a rare species of flowering plant in the evening primrose family, is native to the coastline of southern Oregon and northern California, where it grows in coastal prairie, dunes, and coastal forest and woodland habitat. This biennial herb produces a dense rosette of leaves and an erect stem up to 3.2 feet tall. The biggest threat to the plant is its easy hybridization with its relative and probable descendent *Oenothera glazioviana* (CNPS 2017). Because this rare wild plant crosses with the introduced garden escapee, introgression occurs, causing what is known as genetic pollution. Wolf's evening primrose populations are threatened by road maintenance, development, foot

traffic, invasive plant control, nonnative plants, and hybridization with nonnative *Oenothera* described above (CNPS 2017).

CULTURAL RESOURCES

Section 106 of the NHPA, as amended (16 USC 470 et seq.) and its implementing regulations under 36 CFR Part 800 require all federal agencies to consider effects of federal actions on historic properties, including historic structures, archeological sites, and other cultural resources eligible for or listed in the national register. Cultural resources can include several types of resources (e.g., buildings, structures, objects or archeological sites, and ethnographic resources) or groups of these resources in districts or landscapes that evoke a sense of place or feeling associated with prehistory and history. This sense of historic importance is expressed in the integrity of location, setting, feeling, design, association, workmanship, or the materials used. Four criteria are used to assess whether a resource is important enough for listing in the national register:

- The resources are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That have yielded, or may be likely to yield, important information in prehistory or history.

NPS categorizes cultural resources as archeological resources, ethnographic resources, historic structures, cultural landscapes, and museum collections. As noted in chapter 1, museum collections have been dismissed from consideration in this analysis. The remaining resources are described below.

AREA OF POTENTIAL EFFECT

The APE under section 106 is defined by 39 CFR 800.16d as the geographic area in which an undertaking may directly or indirectly cause alterations in the character of use of historic properties. NPS, USFWS, and the Yurok Tribe in consultation with the California, Washington, and Oregon state historic preservation officers, identified a 1,511-acre area where there is the potential for direct and indirect effects on historic properties from the proposed action. This area includes sites in the Bald Hills area of the park as stated in the introduction of the document, with the first site encompassing 545 acres, the second site encompassing 18 acres, and the third site encompassing 948 acres.

CULTURE HISTORY OF THE BALD HILLS

Numerous cultural resources investigations have been conducted in the park and the Bald Hills area in particular. Archeologists have documented human occupation and use of the area for at least 6,000 years (NPS 2013b). The precontact use of the area is evidenced by village sites, seasonal camps, and artifact scatters associated with trail use (NPS 2013b). The Bald Hills were traditionally occupied by the ancestral Yurok and the Chilula, whose descendants now live on the Hupa Reservation (NPS 2013b). The Ancestral Lands of the Yurok Tribe are described in the *Constitution of the Yurok Tribe* as extending “unbroken along the Pacific Ocean coast (including usual and customary off-shore fishing areas) from Damnation Creek, its northern boundary, to the southern boundary of the Little River drainage basin, and unbroken along the Klamath River, including both sides and its bed, from its mouth upstream to and including the Bluff Creek drainage basin,” an area of approximately 1,148 square miles that includes the Bald Hills (Yurok Tribe 1993). Ethnographic studies indicate that the Chilula occupied area along the lower portion

of Redwood Creek, including up to the Bald Hills ridgeline, principally in villages on the less-forested eastern side of the creek on a series of more level terraces. During summer and fall, hunting and plant gathering activities of the Chilula ranged out over the wider Bald Hills area (Goddard 1914; Gates, Eidsness, and McConnell 2002).

The first European Americans in the Bald Hills areas were explorers, fur traders, and people supplying the mining camps in the interior (NPS 2013b). Many of the trails leading from the coast to mining communities followed earlier trails through the Bald Hills (NPS 2013b). Early settlement was focused along the coast but moved inland as mining became more prominent in the interior and as European-American settlers sought lands for farming and ranching. Beginning in the 1800s, the prairies of the Bald Hills became the focus of European American ranching activities. The Lyons family established a cattle ranch in the Bald Hills during this time but in 1873 switched to sheep ranching (NPS 2004). They are directly responsible for introducing sheep to this region, which proved to be a successful endeavor; wool from the Bald Hills became famous around the world.

The park includes parts of the traditional territories of the Yurok, Tolowa, and Chilula Indians, and these tribes maintain cultural and spiritual connections to these lands (Sale, Davis, and Robbins 2005). These groups continued to use the park lands throughout the historic period and maintain these uses to this day. The traditional territories of the Yurok and Chilula include the Bald Hills region, and their long use is evidenced by the archeological record in this area as well as ethnographic information and oral history (Gates and Eidsness 2000; Gates, Eidsness, and McConnell 2002; Sale, Davis, and Robbins 2005). The Chilula were even known locally in the 19th and early 20th centuries and the “Bald Hills Indians” (Goddard 1914). The ancestral Chilula occupied the Bald Hills area until the mid-1800s when battles with white settlers almost eliminated the Chilula people (Sale, Davis, and Robbins 2005). The remaining Chilula moved to the Hoopa Valley and became part of the Hoopa Valley Tribe (Sale, Davis, and Robbins 2005). The Bald Hills were a place of inter-tribal boundaries and shared trails used by native people to move inland from the coast and to gather resources. The Bald Hills are part of the ancestral lands of the Yurok and Chilula people and are still an important place for hunting and gathering.

ARCHEOLOGICAL RESOURCES

The prehistoric and historic occupation of the Bald Hills area is evident in the archeological sites present in the project area. The importance of these archeological sites was confirmed in 1982 with the listing of the Bald Hills Archeological District in the national register. At that time, the district comprised 20 archeological sites that included villages, camps, artifact scatters, trails, and ritual locations. In 1985, the archeological district was expanded to include 7 additional prehistoric archeological sites, 2 of which spanned park and private lands.

According to the park’s Geographic Information System database, 13 historic and prehistoric archeological sites are located in the project area (table 3). Of these, 5 sites are contributing resources to the Bald Hills Archeological District. The remaining 8 archeological resources consist of historic period artifact scatters, features such as fences and collapsed buildings, and road alignments; most of which are contributing elements or features of the proposed Lyons Ranches Rural Historic District (NPS 2004). With the exception of the 5 prehistoric sites that contribute to the Bald Hills Archeological District, all of the remaining resources have not been evaluated for eligibility for listing in the national register. While 21 previous surveys have been conducted within portions of the APE, not all areas have been investigated.

TABLE 3: HISTORIC AND PREHISTORIC ARCHEOLOGICAL SITES IN THE PROJECT AREA

Site No.	Site Type	Note	National Register Eligibility
CA-HUM-0234	Prehistoric flake scatter	Possible Chilula village of Noledin (Goddard 1914)	National register listed, Bald Hills Archeological District
CA-HUM-0439	Prehistoric village/camp		National register listed, Bald Hills Archeological District
CA-HUM-0442	Prehistoric lithic concentration		National register listed, Bald Hills Archeological District
CA-HUM-0443	Trail Use		National register listed, Bald Hills Archeological District
CA-HUM-0490	Prehistoric Flake Scatter		National register listed, Bald Hills Archeological District
REDW-2004-02	Historic fence segment and collapsed barn	Small-scale contributing element, Lyons Ranches Rural Historic District	Unevaluated
REDW-2004-03	Historic collapsed building and orchard	Small-scale contributing element, Lyons Ranches Rural Historic District	Unevaluated
REDW-2004-04	Historic artifact scatter and collapsed building	Possible contributing element, Lyons Ranches Rural Historic District	Unevaluated
REDW-2004-05	Historic fence segments	Small-scale contributing element, Lyons Ranches Rural Historic District	Unevaluated
REDW-2005-02	Historic logging camp	Dean Lansing Logging Camp (1950s–1970s)	Unevaluated
REDW-2005-03	Historic road alignment	1942 Bald Hills Road, contributing element, Lyons Ranches Rural Historic District	Unevaluated
REDW-2005-06	Historic road alignment	Lyons Road, contributing element, Lyons Ranches Rural Historic District	Unevaluated
REDW-2009-02	Historic collapsed structure and artifacts	Small-scale contributing element, Lyons Ranches Rural Historic District	Unevaluated

ETHNOGRAPHIC RESOURCES

Ethnographic resources are defined as any “site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence or other significance in the cultural system of a group traditionally associated with it” (NPS 1998). Ethnographic resources can be archeological sites, plants and animals, and places, some of which may be historic properties and/or traditional cultural resources. A traditional cultural property is defined as a property “that is eligible for the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community history and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998). Not all ethnographic resources are traditional cultural properties, nor are all ethnographic resources eligible for inclusion in the national register. Ethnographic resources

can be eligible for the national register when they are also another recognized historic property such as an archeological site or structure.

The park has consulted with the Yurok Tribe, Hoopa Valley Tribe, and Tolowa people since 1978 when they were invited to an American Indian Conference on Cultural Resources in the park (Sale, Davis, and Robbins 2005). Since then, consultation efforts and relationships have varied by tribe. These consultations led to the development of a memorandum of understanding and an annual funding agreement between the Yurok Tribe and NPS; an agreement that was renewed in 2003 as a General Agreement (Sale, Davis, and Robbins 2005).

Tribal coordination has resulted in two studies of the ethnographic landscape of the Bald Hills by the Yurok Tribe Culture Department (Gates and Eidsness 2000; Gates, Eidsness, and McConnell 2002). These studies document the continuing relationship between the Tribe and the natural resources and places of the Bald Hills. During these studies, specific places were identified as ethnographic resources because of their importance for ceremonies, gathering, and hunting; a number of these places have also been recorded as archeological sites (Gates and Eidsness 2000; Gates, Eidsness, and McConnell 2002). The studies also document the trails and use of the Bald Hills as a travel route (Gates, Eidsness, and McConnell 2002). Throughout the centuries of use, the tribes worked to maintain the natural resources of the Bald Hills through periodic burning. Because of the interconnections of sacred places, hunting and gathering, and deliberate management of the environment, the Bald Hills are considered to be an ethnographic landscape within which there are important ethnographic resources (Gates and Eidsness 2000; Gates, Eidsness, and McConnell 2002). These resources were recommended as eligible for listing in the national register.

The condor (referred to by the Yurok as Prey-go-neesh) is integral to the beliefs and lifeways of the Yurok Tribe. In Yurok traditions, it was the first animal made by the Creator and plays an integral role in the Tribe's worldviews and serves as a symbol of the efforts to revive and maintain Yurok culture. The condor flies higher than other birds and therefore carries the prayers of Yurok people to heaven. In Yurok culture, the condor should never be harmed, and any feathers that the Yurok people receive are considered a gift. Condor feathers are an important component of ceremonial regalia. The relationship between the Yurok and condors is integral to cultural practices; therefore, the return of condors to their traditional habitat also strengthens the Tribe.

HISTORIC BUILDINGS, STRUCTURES AND DISTRICTS

NPS defines buildings as any form of shelter created to principally shelter human activity (NPS 2002). A structure is differentiated from a building because it is considered a human construction that is made for something other than human shelter, such as a dam, grain elevator, or road (NPS 2002). A historic district is considered any concentration of sites, buildings, structures or objects that are "united historically or aesthetically by plan or physical development" (NPS 2002). One documented historic district is location within the Bald Hills—the Lyons Ranches Rural Historic District.

The Lyons Ranches Rural Historic District encompass eight prairies located along a ridge in the Bald Hills that were the focus of cattle and then sheep ranching activities from the mid-1800s until the area became part of the park (NPS 2016a). The prairies are naturally occurring features that have been modified by people for as long as they have occupied the area (Gates and Eidsness 2000). The prairies are connected to one another along a 6-mile stretch of the Bald Hills Road as well as other smaller roads and trails established during ranching operations (NPS 2016a). Jonathan Lyons established a ranch at Home Place (Schoolhouse Prairie/Sloughman's Point) in 1868, and with his sons, ranching operations branched out to each of the eight prairies. These operations are evidenced by the presence of barns or sheep sheds; other buildings such as bunkhouses, outhouses, and sheds; fences; water features, such as spring boxes

and toughs; and orchards or other nonnative vegetation, many of which are present at some of the prairies (NPS 2016a). The ranches remained within the Lyons family for three generations, passing from Jonathan to his son, Antonio, and then to Antonio's son, Gene (NPS 2016a).

The Lyons Ranches Rural Historic District has been determined eligible for listing in the national register under Criterion A for its association with events important to history, particularly the development of sheep ranching within the Bald Hills and Humboldt County and as an example of socioeconomic cooperation between the Native American and European-American communities (NPS 2016a). It is also eligible under Criterion C as an example of a large-scale sheep ranching landscape within the Bald Hills that retains key features associated with this activity such as structures and buildings, roads and trails, introduced vegetation, and other small-scale elements (NPS 2016a). The period of significance for both these criteria is from 1868, when Jonathan Lyons first settled at Home Place, to 1959, when sheep ranching ended (NPS 2016a).

Historic road alignments are prominent structures in the area related to ranching activities. These include the circa-1942 alignment of Bald Hill Road, and other dirt and two-track roads internal to the Lyons Ranch. Other roads located within the Bald Hills include those related to mid-20th century logging activities. Other roads in the Coyote Creek Basin include Lower Rock Fork Road, Upper Mid-Basin Road, Lower Mid-Basin Road, Long Ridge Loop, School Loop, and Bridge Road (NPS 2004). Other structural resources in the area include the Schoolhouse Peak fire lookout tower and associated generator shed, which while dating to 1941, was extensively renovated in 1976 and therefore does not contribute to the Lyons Ranches Rural Historic District (NPS 2004).

CULTURAL LANDSCAPES

NPS defines a cultural landscape as “a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural and aesthetic values” (Birnbaum 1994). NPS completed a cultural landscape inventory of the Lyons Ranches Rural Historic District in 2004 (NPS 2004). This historic landscape consists of the lands owned by the Lyons family during their most productive years, 1868 to 1959, within the boundaries of the park.

The cultural landscape inventory determined that the Lyons Ranches Rural Historic District retained nine cultural landscape characteristics from the period of significance (1868 to 1959): natural systems and features, spatial organization, cluster arrangement, circulation, topography, vegetation, buildings and structures, small-scale features, and historic archeological sites. The prairies remain, with the associated ranches, organized along the “spine” of the Bald Hills Road and further organized by dirt roads and trails that connected the ranches and fence lines, dividing the area into manageable units (NPS 2004). Buildings and orchard trees remain at some of the locations and date to the period of significance. The landscape includes small-scale features, such as fence lines, water troughs, and spring boxes that provide additional information on the historic use of the area.

The cultural resource inventory also determined that the Lyons Ranches Rural Historic District retains integrity as a rural vernacular landscape and is in fair condition (NPS 2004). The landscape is considered eligible because of its association with events that made a significant construction to broad patterns of history (criterion A); because it embodies distinctive characteristics of construction (criterion C); and because it derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events (criterion D).

TRIBAL RESOURCES

The Yurok Tribe has lived in coastal northwestern California since time immemorial. Their constitution details their traditional lands (described under “Ethnographic Resources”) and specifically highlights the importance of living along the coast and the Klamath River. These areas have served as the homeland of the Yurok since the Spirit People made the lands ready and the Creator placed the Yurok in this location (Yurok Tribe 1993). These lands and the resources they contain are of central importance in the history and current lifeways of the Yurok people.

The history of use of this area is evidenced by the village sites located along the coast and river. The archeological sites in the Bald Hills area identify the long-term use of these places for hunting and gathering. The ethnographic literature abounds with reference to Native American hunting and gathering practices occurring in the Bald Hills’ prairies and peripheral ecotones (Goddard 1914; Lake 1982; Pilling 1978; Wallace 1978). The Yurok Constitution details the use and stewardship of prairie and forest resources like those found in the Bald Hills. Indigenous people traditionally managed and used elk and deer herds, tan oak groves, brodiaea, iris, bear grass and fern patches, and other medicinal plants and grass seed gathering areas. The Yurok practiced controlled burning to improve habitat and encourage the growth of important resources (Yurok Tribe). Prairies were a place of seed gathering among local tribes precontact (Kroeber 1928; Pilling 1978; Thompson 1991), and Yurok families owned specific seed gathering areas (Pilling 1978).

While the natural resources of this area are important to the Yurok people, the landscape is as much a part of their culture as the resources in it. The Klamath River and nearby Bald Hills served as a travel corridor between the coast and inland areas. Trails crisscrossed these lands, bringing different tribal groups through the area and facilitating relationships within and between tribes. These routes served to bring together the Yurok, Chilula, and other nearby tribes for important ceremonies. Europeans continued to use some of these routes to travel inland when they arrived in the area. The landscape that these trails cross remains important for a variety of other reasons, including the presence of important geographic places, sacred sites, and ancestral campsites.

In addition to the Yurok, the Bald Hills area was the traditional territory of the Chilula people. Numerous village and summer hunting sites of the Chilula have been identified ethnographically (Goddard 1914) and archeologically (Kelly, Bickel, and Salzman 1979; Smith 1985) along the Bald Hill Ridge and west in the Redwood Creek valley. Like the Yurok, Chilula peoples moved between the coast, river bottom, and ridge tops to fish, gather, and hunt. Many natural resources in the Bald Hill, including elk, redwood trees and logs; a variety of plants; and numerous physical locations are culturally important to the Chilula and other local tribes (Sale, Davis, and Robbins 2005). The ethnographic ascription of the Bald Hills area to numerous tribal groups, including the Yurok, Chilula, Hoopa, and others has led to the characterization of the area as a place of intertribal boundaries, travel, and interaction (Gates, Eidsness, and McConnell 2002).

SOCIOECONOMICS

Restoration of the California condor in the park and YAT could result in socioeconomic impacts in the release area of the park and the surrounding region from avoiding the take of condors, obtaining permits to allow such take, or complying with the ESA. Employment and income associated with these industries may also be affected as discussed below. The region of influence (ROI) for this socioeconomic analysis includes Humboldt and Del Norte Counties because the primary economic effects related to reintroducing California condors would most likely to be felt primarily in these two counties, including NPS spending on facilities and staff related to this project and spending on labor associated with building the facility. Impacts associated with condor restoration in and around the park are most likely to be perceptible in

these counties because these are the closest geographic areas to the park. Effects from the reintroduction of the California condor may be felt outside these counties, but the density and intensity of these impacts would be far less. For the purpose of this analysis, impacts within the ROI boundary are primarily examined, with some areas immediately adjacent to the ROI (up to approximately 62 miles [100 km] from the release site) also examined. Information about the state of California is presented below to provide an overall context associated with areas within and adjacent to the park where condors are most likely to be present. Additional impacts outside of the designated ROI are also discussed. Information for Oregon and Nevada, although outside this area, is provided for context for the proposed 10(j) boundary.

Additionally, during the public scoping period, potential impacts on various industries within or adjacent to the ROI from the proposed 10(j) boundary were examined. Based on public input and additional internal discussions, the proposed 10(j) regulations were revised to focus protections around active nests and to remove specific prohibitions against incidental take from wind turbines and power lines. The reasons for this change included: (1) wind turbines or power lines are not limiting the growth of the existing condor populations; (2) the change would more closely align the proposed 10(j) rule with the existing 10(j) rule for condors in Arizona, Utah, and Nevada; (3) the number of wind turbines within the area likely to be occupied by condors released in the Pacific Northwest in the foreseeable future is small; and (4) the likelihood that power companies will take effective action to avoid and minimize condor deaths from interactions with power lines, given the history of partnerships with these companies (e.g., actions that power companies have taken to avoid and reduce impacts within the current range of the California condor include (a) using condor GPS data to assess areas of existing and potential threats to condors from power line/power pole interactions; (b) retrofitting power lines and power poles to minimize the potential for injury or mortality to condors; and (c) the formation of an Avian Power Line Interaction Committee Condor Working Group to develop best practices and maintain up-to-date communication with the condor recovery program and among power companies.

POPULATION

Between 2006 and 2015, the population of the ROI grew by less than 1%. The ROI includes less than 1% of the state's total population. Humboldt County is the most populated county in the ROI, containing 83% of the total estimated ROI population (US Census Bureau 2015). The majority of the population in the ROI is concentrated close to the Pacific Coast along US Highway 101 and in urban areas such as Eureka and Crescent City. The park and its immediate surrounding areas, such as Klamath, Orick, and Hiouchi, are less populated and located in areas that are more rural. Table 4 provides the total population for the state of California and for the counties and gateway communities in the ROI. In addition, population estimates for Oregon and Nevada are included to incorporate populations in the proposed 10(j) boundary.

TABLE 4: POPULATION ESTIMATES

Geographic Area	2006–2010	2011–2015	% Change
California	36,637,290	38,421,464	4.6%
ROI	161,529	162,822	0.8%
Humboldt County	133,058	135,034	1.5%
Eureka	26,954	26,985	0.1%
Orick	315	267	E
Del Norte County	28,471	27,788	-2.5%
Crescent City	7,676	7,120	-7.8%
Klamath	893	954	E
Hiouchi	352	327	E

Geographic Area	2006–2010	2011–2015	% Change
Oregon	3,761,925	3,939,233	4.5%
Nevada	2,633,331	2,798,636	5.9%

SOURCE: US Census Bureau 2010, 2015

Note: Where E appears in percent change above, estimate of population margin of error was too high to compute percent change.

GATEWAY COMMUNITIES

Five gateway communities surround the park—Eureka and Orick in Humboldt County and Crescent City, Klamath, and Hiouchi in Del Norte County. While many communities in the area are centers of population, per the park’s general management plan, gateway communities are those that provide access points to the park (NPS 2000). These communities differ from other communities in the ROI largely because of their relationship to and economic dependence on the park, Klamath National Forest, Six Rivers National Forest, and Shasta-Trinity National Forest. Some of these communities have a history of tourism, while others are a stop for travelers who are traveling to destinations within the park. Historically, these communities relied heavily on timber harvesting, gold mining, salmon fishing, and agriculture, but some have shifted their focus to tourism and related activities against the backdrop of the current economic landscape. More than 20 hotels and 100 restaurants are located in Eureka, and several hotels and restaurants are situated in Orick, Klamath, and Hiouchi. Additionally, a park visitor center is located in Crescent City, as are more than 10 hotels and 30 restaurants.

EMPLOYMENT

Historically, timber harvesting, gold mining, salmon fishing, and agriculture were the driving forces for development in the area. The discovery of gold in 1848 in the Trinity region, southeast of the park and the ROI in the Shasta-Trinity National Forest, caused a population boom, and by 1856, Eureka had nine sawmills able to produce 2 million board feet (MBF) of lumber every month (Eureka-Humboldt Visitors Bureau 2017). Although gold mining is no longer active in the area, sand and gravel mining still occurs throughout Humboldt County (FindTheData 2017).

Location quotient is often used in economic analysis as a method for quantifying the level of industry specialization in a region relative to a larger geographic area. The location quotient cannot be calculated for all sectors in all of the project area counties because of data suppression issues from information providers. This suppression is typically caused by either a small number of employees in a sector or a concentration of employees at only a small number of employers. With that caveat, employment in the project area is highly specialized in state government employment followed by local government employment. Retail trade is slightly specialized in the ROI; the location quotient for retail trade is 1.46, indicating that 46% more of employees are employed locally in this sector compared to employment in the same sector for the entire state of California (table 5). Forestry, which is included with agriculture, fishing, and hunting has a location quotient of 1.06, while the arts, entertainment, and recreation and accommodation and food services industries appear to be about equal to or less specialized than those industries at the state level (BLS 2015).

TABLE 5: LOCATION QUOTIENT FOR REGION OF INFLUENCE RELATIVE TO CALIFORNIA, 2016

NAICS*	Industry	ROI
11	Agriculture, forestry, fishing and hunting	1.06
21	Mining, quarrying, and oil and gas extraction	0.14
23	Construction	0.77
31–33	Manufacturing	0.49
44–45	Retail trade	1.46
48–49	Transportation and warehousing	0.03
51	Information	0.34
52	Finance and insurance	0.63
53	Real estate and rental and leasing	0.77
54	Professional and technical services	0.36
55	Management of companies and enterprises	0.23
56	Administrative and waste services	0.33
61	Educational services	0.20
62	Health care and social assistance	1.28
71	Arts, entertainment, and recreation	0.64
72	Accommodation and food services	0.95
81	Other services, except public administration	1.07
99	Unclassified	0.63
92	Local government	1.99
92	State government	2.66
92	Federal government	1.11

SOURCE: BLS 2015

Note: NAICS stands for North American Industry Classification System. It is a system used by the US federal government for the purpose of collecting, analyzing, and publishing statistical data related to the US business economy (US Census Bureau 2017).

Public-sector employment is the largest in the ROI, where it accounts for approximately 30% of all employment. In the three states that make up the area within the proposed 10(j) boundary, the public sector on average accounts for approximately 5% of all employment, most of which comes from the local government in all three states.

Shift share analysis is a common economic development technique used to characterize the relative strength of local industry compared to the nation. To conduct a shift share analysis, three metrics were calculated for each industry—local shift, or the local change in employment in a particular industry; industry mix, or the difference between national employment growth in that industry relative to employment growth in that industry across the national economy; and the competitive component, or the measure of local industry-specific growth relative to either national employment growth or industry-specific national employment growth. If local shift is positive, it means that local employment is growing in that industry. If the industry mix is positive, it means that the local area is increasing its share of national employment in that industry. If the competitive component is positive, it means that local growth outpaces either national employment growth or the industry mix.

An analysis of average employment in the ROI of employment at the sector level over the last 10 years reveals that approximately 27% of local employment is concentrated in industries that have increased employment since 2006 (table 6). Only one industry, health care and social assistance, has a competitive component—an industry that grew at a faster rate than either national employment across all industries or national employment in the same industry (table 6). The arts, entertainment, and recreation experienced local growth (NAICS 71), and the accommodation and food services (NAICS 72) sectors experienced local growth along with national growth in these industries. However, these industries did not grow their expected rate locally given the negative local competitive component. This means there may be some opportunity for greater growth of these industries locally, but this growth would only occur because of changes to some local restrictions that currently are preventing these industries from greater growth. Retail trade (NAICS 44-45) declined in employment locally and nationally and is a generally declining industry in terms of total employment according to the results of this analysis.

Note that agriculture, forestry, fishing and hunting (NAICS 11); mining, quarrying, and oil and gas extraction (NAICS 21); utilities (NAICS 22); and wholesale trade (NAICS 44-45) have been excluded from the analysis because these industries do not disclose data to protect the individual business records for this geographic area.

**TABLE 6: SHIFT SHARE ANALYSIS FOR THE REGION OF INFLUENCE PROJECT AREA,
2006–2015 (ANNUAL AVERAGES)**

NAICS	Industry	Local Shift	Industry Mix	Competitive Component	ROI 2015 Employment
10	Total, all industries	-5.8%	0.0%	-10.1%	54,670
23	Construction	-33.1%	-19.7%	-17.6%	1,872
31-33	Manufacturing	-41.2%	-17.1%	-28.3%	2,112
44-45	Retail trade	-2.7%	-2.5%	-4.5%	8,109
48-49	Transportation and warehousing	-61.3%	5.2%	-70.7%	53
51	Information	-36.9%	-13.6%	-27.4%	548
52	Finance and insurance	-24.1%	-8.7%	-19.6%	1,110
53	Real estate and rental and leasing	-11.9%	-7.1%	-9.0%	695
54	Professional and technical services	-11.6%	12.4%	-28.3%	1,458
55	Management of companies and enterprises	-48.6%	18.9%	-71.7%	180
56	Administrative and waste services	-17.5%	1.8%	-23.5%	1,177
61	Educational services	-31.3%	18.6%	-54.1%	204
62	Health care and social assistance	37.8%	20.7%	12.9%	8,950
71	Arts, entertainment, and recreation	2.3%	9.4%	-11.3%	615
72	Accommodation and food services	5.0%	12.1%	-11.3%	4,864
81	Other services, except public administration	-33.5%	-5.5%	-32.2%	1,840

NAICS	Industry	Local Shift	Industry Mix	Competitive Component	ROI 2015 Employment
99	Unclassified	9350.0%	-6.2%	9351.9%	189
92	Local government	-0.4%	-3.9%	-0.7%	11,253
92	State government	-3.0%	-4.2%	-3.0%	4,005
92	Federal government	-1.5%	-3.2%	-2.5%	913

SOURCE: BLS 2006, 2015

TIMBER LANDS AND HARVESTING

In 2012, 83% of California's timber harvest came from private lands, 14% came from national forests, and the remaining 3% came from other public sources, with primary forest products accounting for \$1.4 billion in total sales in the state in that year. The total timber volume harvested in the state was 1.4 billion board feet in that year; however, this was 70% less than the previous 20-year average, likely indicating how slow housing starts and the national recession that had occurred in previous years have affected the timber industry (McIver et al. 2016). In Del Norte County, Green Diamond Resource Company is one of the largest private timber companies although some smaller private entities, including tribes, also harvest timber. In Humboldt County, the distribution of the privately owned timber harvesters is also evenly split between large companies such as Humboldt Redwood and Sierra Pacific Industries, and mid-size to smaller entities such as the Soper-Wheeler Company and tribal lands (University of California Cooperative Extension, Valachovic pers. comm. 2017). Total production at the county level for both public and private entities in 2012 was approximately 19.3 MBF for Del Norte County, and 215 MBF for Humboldt County (McIver et al. 2016).

Four national forests in close proximity to the park are situated in the Klamath Mountains Ecoregion: Six Rivers National Forest, Klamath National Forest, Shasta-Trinity National Forest, and Mendocino National Forest. These forests are composed predominately of inland forests dominated by Douglas fir or mixed conifer/mixed evergreen. Between 2011 and 2016, the total annual volume of timber harvested within Six Rivers National Forest, Klamath National Forest, and Shasta-Trinity National Forest has varied from a low of approximately 2,175 thousand board feet to a high of approximately 76,101 thousand board feet. Total annual harvest amounts averaged approximately 27,878 thousand board feet during this period. Annual timber sale values, over the same period, reached a low of \$70,304 annually and a high of \$7,574,655, averaging \$1,582,087 over the period (USFS 2017a).

Specifically, in the Klamath Mountain Ecoregion, timber production has declined by 25% since 1980 primarily driven by the collapse of the Asian export market, the listing of the northern spotted owl as an endangered species in 1990, and the implementation of the *Northwest Forest Plan* of 1994 (Sleeter and Calzia 2016). Over this period, logging companies developed specific management techniques used to prevent impacts on ESA-listed species such as implementing habitat conservation plans and erosion control and erosion prevention measures, conducting pre-harvest surveys, adhering to time-of year restrictions, and limiting aerial applications of herbicides (Green Diamond Resource Company 2014).

TRANSMISSION LINES

PG&E provides electric power in Humboldt County, and PacifiCorp provides electric power in Del Norte County. However, in the city limits of Crescent City, which is located in Del Norte County, Pacific Power supplies electric power. PacifiCorp has several transmission lines and substations located in and near Crescent City and Klamath. These transmission lines range from 33 to 92 kilovolts and connect several businesses and municipalities in the area to the electric grid. Additionally, several electric utility

companies have transmission lines and substations in Humboldt County, specifically in and around Eureka and Orick. PG&E owns the majority of these transmission lines, which range from 33 to 92 kilovolts. Some transmission lines that extend further east and southeast from Eureka range from 110 to 161 kilovolts (California Energy Commission 2014, 2015, 2016a, b).

WIND TURBINES

Two wind farms are located in northern California—one in the city of Red Bluff and one west of Burney. The Walmart Red Bluff wind farm, approximately 120 miles southeast of the park, is a community wind facility developed and owned by Foundation Windpower. Walmart purchases the energy produced by the 1.5-megawatt facility. Hatchet Ridge Wind Farm, west of Burney and approximately 130 miles east of the park, is a commercial-scale wind facility development by RES Americas/Pattern Energy. The energy produced by the 101.2-megawatt facility is purchased by PG&E (OpenEI 2012). Most wind turbines in Oregon are located in the north-central portion of the state close to the border with the state of Washington in Gillam, Morrow, Sherman, and Umatilla Counties. These include the Shepherds Flat Wind Farm, Bigelow Canyon Wind Farm, and Klondike Wind Farm (USGS 2017).

TOURISM

NPS visitor spending in California totaled \$1.8 billion in 2015, primarily on camping, gas, groceries, hotels, recreation industries, restaurants, retail, and transportation. Of that \$1.8 billion, \$33 million was spent in the park and surrounding gateway communities. This \$33 million in annual visitor spending supported 530 jobs with a combined labor income of \$13.7 million, accounting for a total added value to the local economy of \$22.7 million in 2015. The largest sectors supported directly by visitor spending were hotels (143 jobs) and restaurants (127 jobs). Visitor spending at the park resulted in a total economic output of \$41.1 million in 2015, supporting approximately 650 jobs and \$17 million in labor income. In the same year, visitor spending at national parks in Oregon totaled \$81.4 million (NPS 2015e).

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CHAPTER 4

Environmental Consequences



CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

GENERAL METHODOLOGY FOR ESTABLISHING IMPACTS

In accordance with CEQ regulations, direct, indirect, and cumulative impacts are described (40 CFR 1502.16), and the impacts are assessed in terms of context and intensity (40 CFR 1508.27). Where appropriate, mitigating measures for adverse impacts are also described and incorporated into the evaluation of impacts. A full list of mitigation measures can be found in “Chapter 2: Alternatives.”

CUMULATIVE IMPACTS ANALYSIS METHODOLOGY

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7/8). The temporal scale for the cumulative impacts analysis includes past actions from the establishment and operation of California condor recovery sites in other areas and the recovery program through reasonably foreseeable future actions.

Cumulative impacts are determined for each impact topic by combining the impacts of the alternative being analyzed and other past, present, and reasonably foreseeable actions that would also result in beneficial or adverse impacts. Because some of these actions are in the early planning stages, the evaluation of cumulative impacts is based on a general description of the projects. Other past, present, and reasonably foreseeable actions located near the park to be included in the cumulative impacts analysis were identified through the internal and external project scoping processes and are summarized below.

ROADWAY PAVING, IMPROVEMENT, AND REMOVAL PROJECTS

Various capital improvement projects, including roadway improvements, are ongoing at the park. Paving Bald Hills Road is one of these projects. The Bureau of Indian Affairs has issued a FONSI for a project to pave and improve 2.6 miles of a rockied section of Bald Hills Road in the park. Bald Hills Road is a public road, operated and maintained by Humboldt County from US Highway 101 near Orick to State Highway 169 at Martin’s Ferry Bridge, a distance of 32.2 miles. Road paving would provide increased road access to the area for park operations and visitor access. The “Last Chance Grade” improvement project is occurring on US Highway 101 along the coast north of the proposed released site, with an anticipated construction date of 2030.

PROPOSED TELECOMMUNICATION FACILITY

NPS is considering issuing a right-of-way permit to the State of California, Governor's Office of Emergency Services to construct and operate a telecommunication site in the park in Humboldt County and for access across NPS lands in Del Norte County to another site on state-owned lands, which would be part of the same telecommunication system. Installation of a telecommunications system would place a tall tower in the area of the proposed release site that could be an attractive roosting area for released condors (NPS n.d.).

DEVELOPMENT OF PROPOSED FACILITIES AT THE PARK

The capital improvement projects at the park include development of various facilities, including a new visitor center at Bald Hills Road and US Highway 101 and a visitor center at Jed Smith Campground, adjacent to marbled murrelet habitat. Both of these projects would include construction that could cause temporary disruptions in adjacent habitat and, in the long-term, increase visitor facilities in the park. The

park also plans to remove the firing range on Klamath River-Alder Camp to remove existing lead contamination (under the Comprehensive Environmental Response, Compensation, and Liability Act).

EXISTING CALIFORNIA CONDOR RECOVERY SITES AND RECOVERY PROGRAM

Attempts to reintroduce the species to the wild have been underway in southern and central California since 1992, in Arizona since 1996, and in Baja California, Mexico, since 2002. In addition, to provide condors for release, four captive rearing facilities are involved in condor recovery—the Los Angeles Zoo, San Diego Wild Animal Park, Oregon Zoo, and the Peregrine Fund’s World Center for Birds of Prey in Boise, Idaho. These breeding facilities provide condors to release at five condor release sites in western North America—Pinnacles National Park, Ventana Wildlife Society’s site on the Big Sur Coast, USFWS’s site at Bitter Creek National Wildlife Refuge in southern California, Peregrine Fund’s site at the Vermillion Cliffs in northern Arizona, and El Parque Nacional San Pedro Mártir in Baja California, Mexico. Although condors have successfully reproduced at all release sites, these attempts have not yet achieved self-sustaining wild populations largely because of the high mortality that can be traced to continued lead poisoning in the wild (Finkelstein et al. 2012).

REDWOOD NATIONAL PARK FIRE MANAGEMENT PLAN

The 2015 *Redwood National Park Fire Management Plan* describes how fire and fuels will be managed in the park from 2010 through 2015. This plan guides fire management actions more than 6,800 acres (NPS 2015b). Fire management activities could occur in the area of the proposed release site and where condors are active; these activities would need to be coordinated with a condor restoration program in and around the park.

INVASIVE PLANT MANAGEMENT

Currently, the Redwood National and State Parks include more than 200 species of exotic plants. More than 30 of these are invasive species. At least 10 invasive plant species threaten the parks’ native species and ecosystems. Invasive species management is a necessary part of the responsibility to protect the parks’ natural heritage (NPS 2015f). Control activities may occur in or around the condor release site, as well as where condors feed, roost, and nest. In the long term, invasive species management will benefit vegetation in and around the park by removing these species to allow for restoration of native species.

HUMBOLDT COUNTY GENERAL PLAN AND PLAN UPDATE

The *General Plan* and *General Plan Update* for Humboldt County address all of the unincorporated portions of the county, including the 22 community planning areas and 6 coastal zone planning areas established by the county. Excluded from the *General Plan Update* are the incorporated cities. However, existing land use patterns and sphere of influence plans of the incorporated cities have been analyzed in the *General Plan Update* planning process. The *General Plan Update* has a 20-year planning horizon, designating sufficient land to meet projected demands for the next 20 years without unreasonably constraining market choices. At the same time, the plan proposes focusing growth toward urban and urbanizing areas by increasing development opportunities in these areas and reducing development expectations on resource lands. Relevant guiding principles of the plan in relation to the proposed California condor recovery program include:

- Preserve and enhance the character of Humboldt County and the quality of life it offers.
- Provide sufficient developable land, encourage development of affordable housing for all income levels, and prevent housing scarcity under a range of population growth scenarios.

- Protect agriculture and timberland over the long term, using measures such as increased restrictions on resource land subdivisions and parcel development.
- Protect natural resources, especially open space, water resources, water quality, scenic beauty, and salmonid habitat (Humboldt County 2012).

YUROK TRIBE BLUE CREEK MANAGEMENT PLAN

Western Rivers Conservancy and the Yurok Tribe collaborated to acquire 47,097 acres from the Green Diamond Resource Company to establish the Blue Creek Sanctuary and Yurok Community Forest and develop the Blue Creek Sanctuary and Yurok Community Forest Conservation and Management Plan. The ultimate goals of this acquisition are to protect and restore the area to a healthy ecosystem rich in biodiversity and resilient to resource threats such as drought and climate change and to reestablish the traditional Yurok role in the management and stewardship of their ancestral territory to fulfill the aims of the Yurok Constitution. Forest conservation under this plan would assist in preserving habitat for numerous species, including the California condor (West Rivers Conservancy and Yurok Tribe n.d.).

CALIFORNIA CONDOR

METHODOLOGY AND ASSUMPTIONS

The range of potential impacts on the California condor under the action alternatives is detailed in chapter 1. In order to analyze these potential impacts, a number of indicators were considered including:

- 1) Mortality caused by contaminants in the environment, electrocution with transmission lines, or collision with human-made structures
- 2) Food availability within the project area
- 3) Planned management and care of the new population
- 4) Effects of a NEP (10j) versus an endangered population (non-10(j))

IMPACTS OF NO ACTION

Analysis. The no-action alternative would provide no benefits to the recovery efforts for the California condor in the park or YAT. No condor release/management facility or associated facilities would be constructed, and no condor monitoring program would be established in the park. Therefore, it would not contribute to the recovery of the species in their historical range.

The no-action alternative would delay the return of condors to the area and would have minor, short-term impacts on its wilderness values, including its recreational, scenic, scientific, educational, and conservation purposes. Current wild populations would continue to be managed by the California condor recovery program, and, in the long term, if recovery efforts were successful without the initiation of additional conservation actions in other portions of historical range, condors would likely eventually reoccupy the area.

Cumulative Impacts. Because the no-action alternative would have no impacts, no cumulative impacts on California condor would occur.

Conclusion. The no-action alternative would provide no benefits to the recovery efforts for the California condor in the park or YAT and no cumulative impacts.

IMPACTS OF ACTION ALTERNATIVE 1

Analysis. Under action alternative 1, USFWS would designate the restored population as a NEP. An experimental population is a special designation under the ESA that can be applied to a population of a threatened or endangered species such as the California condor prior to reestablishing it in an unoccupied portion of its former range.

An experimental population designation allows USFWS to customize protective regulations to reduce impacts on stakeholders while ensuring that the restoration is likely to be successful and will benefit the conservation of the species. The proposed 10(j) boundary, enclosing the experimental population area, would include Oregon, northern California (north of California State Route 20), and northwestern Nevada (north of Interstate 80 and west of US Highway 95; see figure 3). Incidental take would be exempted inside the boundary with an exception for some incidental take within 200 meters of active nests. Only USFWS, on refuge lands, and NPS, on lands it manages, would be required to complete formal section 7 consultations if their actions are likely to adversely affect California condors within the proposed 10(j) boundary. Other federal agencies would not be required to conduct formal section 7 consultation on proposed actions that might adversely affect California condors.

“Take” of California condors under the ESA would be governed under the special rules defined in the experimental population designation. All incidental take of condors would be exempted under the special rules, with one minor exception. Incidental take of California condors through habitat alteration or significant visual or noise disturbance (e.g., tree felling, chain saws, helicopter overflights, concrete cutters, explosives) within 656 feet (200 meters) of an active nest would be prohibited under action alternative 1, but could be authorized through existing ESA mechanisms (e.g., through a section 7 consultation or a section 10 Habitat Conservation Plan). For the purposes of the special rule, an active condor nest is defined as a nest that is: (1) attended by a breeding pair of condors, (2) occupied by a viable condor egg, or (3) occupied or attended by a <1-year old condor. Therefore, if an agency or private forest landowner intends to take an action within that distance of an active California condor nest and believes that the action will not result in incidental take of California condors because of mitigating factors (e.g., topography or limited duration or extent of the action), they will need to contact USFWS for technical assistance. Given the small number of expected condor nests in the first couple of decades of releases and the small area where stakeholders might be affected around active nests, impacts on landowners and land managers would likely be extremely limited.

The California condor is protected by the State of California under both the California ESA, California Forest Practices Act, and the California Fish and Game Code as a fully protected species. Previously, the State of California did not have a mechanism similar to the USFWS's NEP designation process. However, on September 20, 2018 Assembly Bill 2640 was passed. This bill provides for limited take of the California condor that would be consistent with the take exemptions in the proposed 10(j) rule by allowing the Director of the CDFW to evaluate the final rule and make a determination as to whether the USFWS's final rule would further the conservation of the species and whether any further authorization or approval of take would be necessary. Once the final rule is published, USFWS will follow up with the state to request their evaluation of the final rule. A release/management facility and associated infrastructure for capture and release, office storage, condor medical treatment, and staff housing would be designed and constructed in the park. A monitoring program would be established and include nest monitoring and activities related to capture, treatment, and tracking of condors. Coordination with other parks and wildlife refuges would occur to implement outreach for the use of nonlead ammunition.

USFWS completed the *California Condor Recovery Plan* in 1996 (USFWS 1996). To recover the species, the recovery plan calls for reestablishing self-sustaining populations of condors in the wild. Action alternative 1 would have a beneficial effect on condor recovery by more quickly re-colonizing the

northern portion of the species' historical range, and it would help USFWS meet recovery goals if release efforts are successful in establishing a population that is reproductively self-sustaining. This alternative is likely to have a beneficial effect on condor populations, condor recovery, and the overall health and viability of the US condor population.

Protection of Nesting and Roosting Habitat — Incidental take that would not be exempted under action alternative 1 (10(j) rule) is take that would occur through habitat alteration or significant visual or noise disturbance within 656 feet (200 meters) of an active condor nest. If a condor nest tree is known to be inactive, the tree could be harvested along with the forest habitat surrounding it under action alternative 1. Therefore, action alternative 1 could lead to the removal of some nest trees over time. However, the density of large tree cavities available as potential nest sites for condors in old-growth trees in the park is expected to be high (Yurok Tribe, West pers. comm. 2017b). Further, condors typically nest in trees with large cavities or with broken tops that create platforms and with branches regrowing over the platform to create a new over-top canopy. These trees are typically of little timber value and are often left as retained wildlife trees. Suitable tree cavities for nesting condors are also likely common in old-growth forests on other federal lands (e.g., USFS and BLM) within 62 miles (100 km) of the proposed release site (probable condor nesting area). It is likely that a pair of condors could locate additional nest sites within their territory if a nest tree was harvested. Therefore, significant adverse effects on the productivity of the new condor population would not be likely under action alternative 1.

Mortality Due to Contaminants — Mortality from contaminants in food supply is the main threat to condor population establishment and viability, and condor populations at the northern California release site could experience mortality from these contaminants, which would have a correspondingly adverse effect on recovery and growth of the reintroduced condor population. Adverse effects could occur if levels of lead, DDE, DDT, or rodenticides in the proposed release area are high. However, in a study in northern California and southern Oregon on background concentrations of lead and other contaminants in the blood of avian scavengers (common ravens and turkey vultures) expected to use many of the same food resources that California condors would use, contaminant levels were lower than those recorded in other regions (West et al. 2017). For lead contamination, turkey vultures in Humboldt and Del Norte Counties, California, had median blood lead levels of 6.0 micrograms per deciliter ($\mu\text{g}/\text{dL}^{-1}$) outside the deer hunting season, while birds in Mendocino County, the next county to the south, had blood lead levels of 7.0 $\mu\text{g}/\text{dL}^{-1}$ (West et al. 2017). In Monterey County, California, outside deer hunting season, turkey vultures had blood lead levels of 14.0 $\mu\text{g}/\text{dL}^{-1}$ prior to and 6.0 $\mu\text{g}/\text{dL}^{-1}$ after the Ridley Tree Condor Preservation Act lead ammunition ban went into effect (West et al. 2017). Blood lead levels are typically higher during the hunting season when scavengers are feeding on carcasses killed by hunters using lead ammunition (Golden, Warner, and Coffey 2016). Ravens in northern California had blood lead levels of 6.4 $\mu\text{g}/\text{dL}^{-1}$ during the deer hunting season, while birds in Greater Yellowstone Wyoming (the only other data available for comparison), had blood lead levels of 10.7 $\mu\text{g}/\text{dL}^{-1}$, and both had substantially lower levels of blood lead outside the deer hunting season, 1.1 $\mu\text{g}/\text{dL}^{-1}$ and 1.8 $\mu\text{g}/\text{dL}^{-1}$, respectively. Therefore, lead exposure in the new northern California flocks may be lower than that found in other regions (such as Wyoming) or at other existing condor release sites. As a point of reference, currently the Pinnacles National Park condor release site/management facility is using 35 $\mu\text{g}/\text{dL}$ as a threshold for triggering treatment of condors for lead exposure, although other release sites may use different thresholds. Experts now use a reference level of 5 $\mu\text{g}/\text{dL}$ to identify human children with blood lead levels that are much higher than most other children's levels. Chelation therapy is considered when a child has a blood lead test result $\geq 45 \mu\text{g}/\text{dL}$ (CDC 2017).

The use of lead ammunition to hunt wildlife has been banned in the state of California with full implementation planned for July 2019. Hence, lead from ammunition sources in the state may become less available to condors, but it may take years for a difference to be detectable because of challenges related to full compliance with the law, which could include enforcement difficulties and other

challenges. This law would offer protection to birds released in northern California anywhere in the state, including on federal lands; however, it does not protect reintroduced condor populations in Baja Mexico or the Vermillion Cliffs in northern Arizona. In addition, birds released in northern California that forage in southern Oregon would still be exposed to lead ammunition legally used for wildlife hunting in the near term. This exposure type may be similar to the ongoing exposure to lead at the Vermillion Cliffs release site in northern Arizona, where the use of lead ammunition is also legal. However, the final exposure of the population to lead is complicated and is related to a number of factors, including the number of hunters, the number of hunters using lead versus nonlead ammunition, accessibility of these carcasses to condors, and availability of coastal food. Lead contamination from areas outside the park would be monitored via VHF transmitters to track where condors have been. Finally, the proposed action of releasing condors in northern California includes an educational program by NPS and the Yurok Tribe that would continue and expand ongoing interpretative activities and programs concerning condor ecology and nonlead ammunition outreach. Efforts to coordinate interpretive messages, resources, and outreach activities with other parks, wildlife refuges, and conservation and hunting organizations for the use of nonlead ammunition would also continue. These activities would continue in southern Oregon, where lead may be a bigger issue for condors in the long term, to engage with the hunting and ranching community, increase the visibility of the conservation issue, and begin to reduce impacts on the health of condors and scavenging wildlife from lead exposure in these areas. The Oregon Zoo, Yurok Tribe, and Oregon Department of Fish and Wildlife are already proactively engaging with the hunting community regarding the benefits of nonlead ammunition throughout the state, and all opportunities to assist as appropriate and possible would be supported.

Condors would be monitored continually wherever they go, as possible, to track location information and resource use via GPS transmitters and VHF radio transmitters fitted prior to release. This essential component of the release program would allow trapping at any time or location required to meet the needs of the program and assure condor health and safety, particularly if a bird is displaying symptoms of injury or lead toxicosis. Biannual trapping events would also occur, similar to other release facilities, where condors are captured at the release/management facility to allow for hands-on physical exams, replacing faulty or aging transmitters, marking growing feathers and sampling feathers marked previously for contaminant exposure mapping and monitoring, and drawing blood samples for immediate testing of circulating blood lead levels and archive needs. If tested blood showed elevated levels of lead, the condors could immediately be radiographed for the presence of lead fragments in their gastrointestinal tracts or transported to treatment facilities for intervention. If lead fragments were detected or if clinical symptoms of acute lead toxicosis were observed, condors would immediately be transported to a permitted advanced-care-facility. If fragments were not detected and symptoms did not present as acute, condors with elevated circulating blood lead levels may be transported to treatment facilities or retained in isolation pens in the release/management facility or in other available condor facilities, and on-site chelation therapy may be administered. These management practices, along with the lead ban and education outreach described above, would minimize and mitigate the effects of lead exposure to the northern California flock.

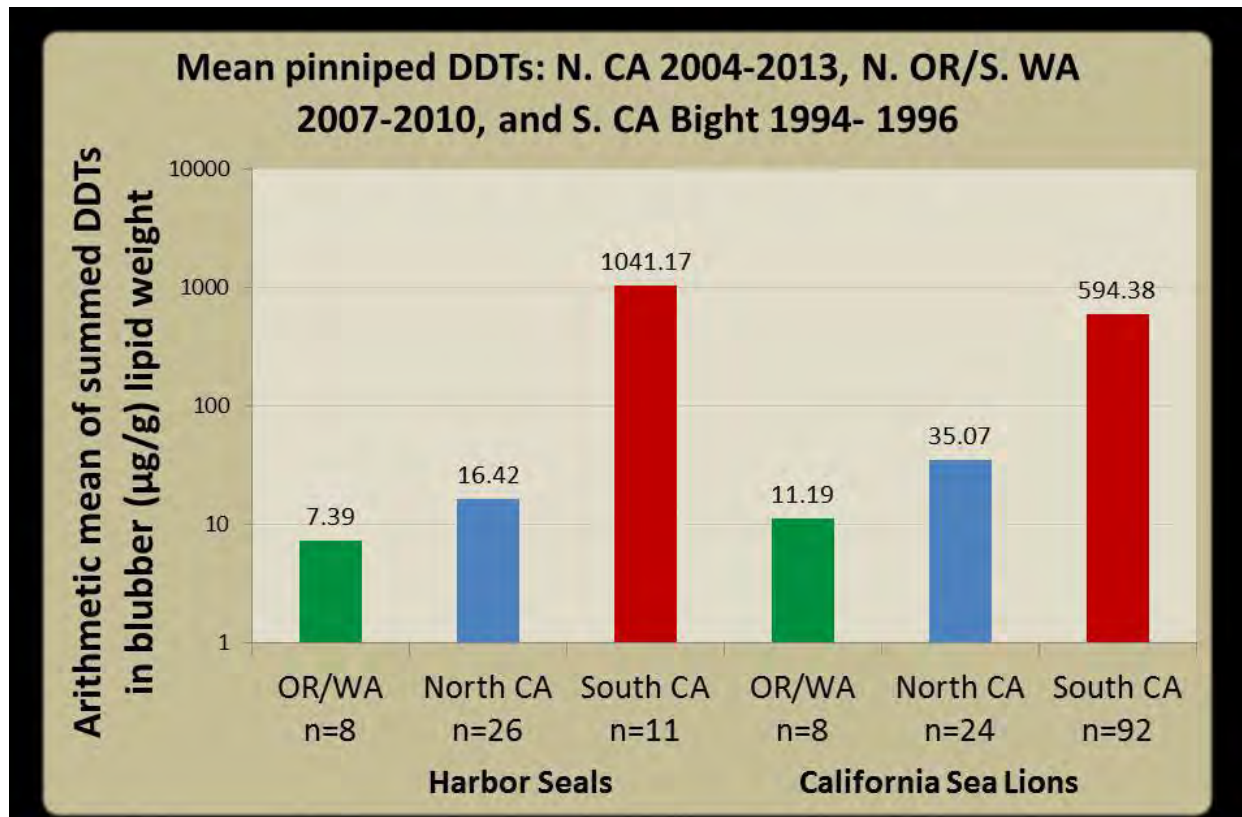
Other contaminants of primary concern for California condors feeding on beached marine mammals are organochlorines (organochlorine contaminants: DDE, an organochlorine pesticide, and polychlorinated biphenyls). In a study of condors in southern and central California, Kurle et al. (2016) found coastal condors had higher whole blood isotope values and mean concentrations of contaminants associated with marine mammals that were 12 to 100-fold greater than those of noncoastal condors. Their analyses demonstrated potentially harmful levels of marine contaminant transfer to California condors that could cause reproductive problems such as eggshell thinning. However, a review of this paper by Meretsky and Snyder (2017) concludes that earlier studies with condors and DDE, largely focused on potential effects on eggshell thickness, do not provide consistent or persuasive support for such a link. In a rebuttal to this

review, Finkelstein et al. (2017) state that the negative effects of DDE exposure on avian reproductive success have been well-established in other birds.

Increased levels of exposure to DDE when condors feed on marine mammals are thought to negatively affect condor egg survival at the Big Sur release site (Burnett et al. 2013). Recent assessments of contaminant levels in pinnipeds found very high levels of total DDT and polychlorinated biphenyls in harbor seals and California sea lions in the southern California Bight (Blasius and Goodmanlowe 2008). However, in a comparison of total DDT levels (tDDTs) in harbor seals and California sea lion carcasses in Oregon/Washington, northern California, and southern California, West et al. (in review) found a continuum of levels of tDDTs in these two marine mammals from a high at a known point source location of contamination at the Montrose Chemical Corporation site in southern California and decreasing the farther north from the site that the samples were collected (figure 20). These levels declined further in Oregon and Washington (West et al. (in review)). In a study of mean organochlorine contaminants found in marine mammal blubber, Gunderson et al. (2013) conclude that samples from the study in Oregon and Washington were substantially lower than those found by the three California studies, suggesting that condors released in Oregon would be at a lower risk for organochlorine bioaccumulation than condors residing in central California. Therefore, organochlorine contaminate levels in marine mammal carcasses available to the northern California population likely would be lower than other regions, including released populations farther south. If organochlorine contaminant levels were lower in northern California compared to other more southern coastal sites, such as Big Sur, reproductive success of condors could be higher for the new population and assist in recovery. However, the impact of accumulated contaminant loads in eagles nesting in the Lower Columbia River, Oregon has been shown to include significant thinning of eggshells and a drop in reproductive productivity to 30 %–50 % compared to eagles nesting in other parts of Oregon (Buck et al. 2005). Clearly additional investigation of this issue is warranted to determine if bioaccumulation of these contaminants pose a risk to released condors in Oregon. Other contaminants could also affect productivity alone or in combination with organochlorines, but exposure rates to other marine contaminants and their effects on condor productivity have not been studied.

It is possible that the northern California flock could experience additional mortality or injury from eating mammals killed by illegally used rodenticides at illegal marijuana growing operations in northern California and southern Oregon. However, after more than 20 years of releasing condors in southern and central California, this type of mortality is exceedingly rare—with only a single documented instance of this occurring. On April 4, 2017, an 8-year-old male condor from the Pinnacles National Park flock was found dead on private land in Coalinga, California. The carcass was located near several illegally cultivated marijuana crops established by trespassers, and necropsy results indicated that the condor died from brodifacoum anticoagulant poisoning. Brodifacoum is an extremely toxic and persistent chemical used in the production of some rodenticides. This is the first recorded mortality of a condor from this poison. Illicit marijuana growers protect their plants from being eaten by wildlife by applying pesticides (herbicides, insecticides, and rodenticides) around or directly to their crops, often in concentrations far exceeding manufacturer specifications, and often with types that have been banned in the United States. High levels of marijuana production occurring in northern California, much of which is illegal or unregulated, could cause mortality to the new condor population. However, many growing operations in northern California, especially trespass growing operations, are often carried out under forest canopy to avoid detection by satellite and aircraft. In some cases, the operators thin some trees to let additional sunlight in for the plants, but the majority of the canopy is retained to keep the operation camouflaged from the air. Unlike turkey vultures, condors rarely venture onto the ground in dense forest because of flight capabilities; this forest canopy cover would make it difficult for condors to access dead animals and be exposed to the toxicant. Therefore, it is unlikely that the new population would be exposed to rodenticide use and experience higher mortalities from this source. However, little information is available to judge whether this would be a problem for the proposed new population or not. Released condors from the new population would be closely monitored to identify areas of activity, detect exposure

to rodenticides, and determine locations of mortality for follow up investigation. Results of monitoring would allow determination of whether contaminants at marijuana-growing operations would be an issue.



SOURCE: Blasius and Goodmanlowe 2008; Gunderson et al. 2013

Note: Y-axis is logarithmic.

FIGURE 20: MEAN TOTAL DDTs IN SEAL AND SEA LION BLUBBER IN NORTHERN CALIFORNIA, OREGON, WASHINGTON, AND SOUTHERN CALIFORNIA, 1994–2013

Mortality Due to Electrocution or Collisions — Incidental take from electrocutions from transmission lines or collisions with wind turbines would not be prohibited under action alternative 1.

Mortality or injury of released condors at the northern California facility from transmission lines and electrocutions could occur. However, the lower human population densities in the northern California and southern Oregon region, coupled with much lower industrial infrastructure, likely reduce the density of transmission lines and reduce chances of mortality from transmission lines overall. In addition, the major utilities (PacifiCorp and PG&E) in the region of the proposed new release site have signed a memorandum of understanding with 16 entities targeting recovery of condors in northern California and are assisting in providing protection for condors from electrocution by their transmission lines in areas of high condor usage. These utilities have a long record of successfully working with USFWS and state agencies on these issues. Near the Big Sur California condor release/management facility, PG&E has installed more than 17,692 feet of tree wire on powerlines to protect condors. Additionally, modelling by PG&E that showed sensitive areas around release sites determined that no major utility lines are near the proposed new release site and powerline densities in the area of the release/management facility are considered low (PG&E, pers. comm. Best 2018). A visual comparison of the density of electrical distribution lines within PG&E's service territory near the proposed new release site confirms that densities are much lower than at other condor release sites in central and southern California (figures 12,

13, and 14). The closest transmission line to the proposed release/management facility is about 8.4 miles to the west near Orick, California. Of the multiple release sites that were considered in northern California, powerline density was considered lowest at the preferred release site in the Bald Hills Area.

In addition, power pole aversion training would be used in northern California releases, similar to other condor release sites. Power pole models in or near the flight pen would be fitted with shock wires that deliver a mild shock to condors that land on them. Use of such mock power poles has resulted in virtually no released condors using power poles as perches since its institution. Avoidance of power poles by condors post-release has led to a reduction in proximity of condors to powerlines and a major decline in condor mortalities from powerline collisions.

To date, no mortalities of California condors from wind turbine facilities have been recorded. In addition, the nearest operating wind turbine facility to the release site is near Redding, California, which is approximately 95 miles from the proposed release site. Although the wind farm location does contain some suitable condor feeding habitat based on the habitat model developed by D’Elia et al. (2015), the larger area around the wind farm is located within a relatively densely forested area, which is generally not considered good foraging habitat for condors. In addition, the wind farm is relatively small with only 44 total turbines. Based on the number and distribution of wind farms from the release site, it is extremely unlikely there would be mortality or injury of released condors from wind turbines. In addition, some technologies are available or are being tested to reduce the risk of condors colliding with a wind turbine. Because many California condors flying in the wild are fitted with GPS transmitters, wind developers have the ability to use a high-frequency receiver to track condors near their facilities. If they pick up a signal from a condor and it gets within a certain distance of the wind development, the company can shut down or slow the rotations of the turbines to reduce risks to condors. The industry is also currently testing radar technologies that could detect when eagles and other large birds are approaching a wind development. Turbines could be slowed or shut down when the radar determines birds are within a certain distance of the turbines. Initial live testing has shown that radar technology can likely reduce the risk to large species of birds such as whooping cranes, condors, and eagles. Additionally, sources of mortality would be carefully monitored, and if high mortality rates were preventing the establishment of a self-sustaining population, the IPT would coordinate with these providers to implement additional measures to address electrocution and collision threats, as has been done at other California condor release sites.

Food Availability — Issues related to accessibility to the coastal food supply may occur during the rainy/winter season in northern California. The longer cool rainy season at the proposed release/management facility could create unforeseen obstacles, such as lack of thermals and updrafts to create lift for condors trying to locate food. However, Lewis and Clark observed condors in Oregon during the winter expedition of 1806 (D’Elia and Haig 2013). Members of the expedition collected multiple condors, and they documented condors in coastal Oregon over much of the year, including as early in winter as November 18 (Cape Disappointment) and as late in winter as March 16 (Fort Clatsop). Historically, condors were observed in all seasons in the Pacific Northwest, both along the Pacific coast and farther inland (D’Elia and Haig 2013), but finer scale patterns of historical seasonal movements within in the Pacific Northwest are unknown. Use of the Pacific coast is also observed in turkey vultures year-round in these areas, even when birds leave inland areas. It is possible that temperatures, buffered by the ocean, create a more moderate environment and winds off the ocean allow for favorable flight conditions in the absence of thermals for soaring. In addition, the proposed site has a rainy season and coastal food supply similar to the Big Sur flock. The Big Sur flock forage and nest on the coast for the entirety of the rainy season. However, the central California flock along the coast does not rely on thermals in the winter, and instead use constant coastal onshore winds coupled with steep mountainous terrain that provides lift during most of the year. Onshore coastal winds would also be available to the northern California population, and steep topographic relief is available on some sections of the coast in the foraging range (186 miles [300 km] from the release site) of these condors. In addition, condors (and

other large avian scavengers) have evolved and adapted to efficiently locate a diffuse food supply. Food has not been documented as a limiting factor to condors at any of the other existing release sites.

Management and Care of Condors — The management of condors at the new release site would be guided by the California condor recovery program in accordance with the *California Condor Recovery Plan* (USFWS 1996) and by the recommendations of the CCRP Partners. Thus, condor management and the related activities of the program in northern California would follow the methods and protocols in use at other release sites in the United States, including the use of a release/management facility structure, bird handling, tracking of condors via VHF and satellite transmitters, supplying condors with proffered food as supplementation or bait to allow for repeated trappings to monitor health and replace tracking hardware, veterinary care, nest management if breeding occurs, transporting condors and eggs between approved facilities, and ongoing outreach to local stakeholders and the public. In addition, the new release site would have closer supportive veterinary care at the Sequoia Park Zoo than other release sites in California. The Sequoia Park Zoo is 57 miles from the proposed release/management facility. No additional impacts on condors associated with handling, management, or care are anticipated.

USFWS completed a third revision to a recovery plan for the California condor in 1996 (USFWS 1996). To recover and downlist the species from endangered to threatened, the recovery plan calls for reestablishing self-sustaining populations of condors in the wild. Specifically, the USFWS recovery criteria include the maintenance of at least two noncaptive populations, preferably more, and one captive population that must: (1) each number at least 150 individuals; (2) each contain at least 15 breeding pairs; (3) be reproductively self-sustaining and have a positive rate of population growth; (4) noncaptive populations must be spatially disjunct and non-interacting and; (5) contain individuals descended from each of the 14 founders. Actions called for in the recovery plan include: (1) establishing a captive breeding program to preserve the gene pool; (2) reintroducing California condors to the wild; (3) minimizing mortality factors in the natural environment; (4) maintaining habitat for condor recovery and; (5) implementing condor information and education programs.

Establishing a self-sustaining population in the Pacific Northwest would help USFWS meet these recovery plan goals. The proposed action would establish an additional distinct population separate from central/southern California and Arizona populations that would be protected in case of a disease outbreak or natural catastrophic event such as wild fires that affect these other populations. The proposed new release site would expand the geographic range of the species to the Pacific Northwest. It is possible the new population could experience a lower mortality rate than other populations because of a variety of factors, including lower lead and organochlorine contaminant levels in the environment, which would help reach recovery goals more quickly. Establishing a new population of condors in the Pacific Northwest would also help USFWS meet Recovery Action Items 2, 3 and 5, which are part of the *California Condor Recovery Plan*.

This alternative would reduce the administrative burden associated with managing California condors under sections 7 and 10 of the ESA. USFWS section 7 consultations would not be required, except on NPS lands or in national wildlife refuges. Recovery permits would not be required for routine management of the population by authorized entities. It is highly likely that impacts on stakeholders would be extremely limited.

A condor population would indirectly benefit local marine and terrestrial ecosystems. Condors are an apex scavenger, and they would resume their role in consuming larger animal carcasses, contributing greatly to the overall health of the ecosystem.

Cumulative Impacts. Past, present, and reasonably foreseeable actions with the potential to affect California condors include installation of a telecommunications system that would place a tall tower in

the area of the proposed condor release site, paving of Bald Hills Road, occasional fire management activities in the release area, and condor release projects underway in southern and central California, Arizona, and Baja California, Mexico. With the exception of the paving of Bald Hills Road and fire management activities, these actions would have either beneficial or neutral impacts on condor populations. The paving of Bald Hills Road, if done after condor releases, may cause temporary, minor disturbances to released condors because of the high likelihood that condors would use the Bald Hills area for foraging and roosting. Fire management activities would be carefully timed and coordinated with the condor management team to avoid impacts on the release/management facility in the park's inland region and the condors kept there. Without this timing and coordination, possible impacts could include putting the release/management facility at risk of fire damage and could adversely affect condor health. The telecommunication tower may be used by condors for perching at times, but is unlikely to have any adverse impacts on individual condors or the population provided that reasonable best management practices, such as general site cleanliness and installation of anti-perching devices where practical, are employed to reduce hazards. Therefore, the expected beneficial impacts on condors and condor populations from action alternative 1 would contribute to the overall beneficial cumulative impacts from these past, present, or reasonably foreseeable actions.

Conclusion. Research shows that, over time, impacts on condors from exposure to organochlorines and lead would likely be lower in northern California compared to other regions, thus contributing to recovery of the species. Mortality from electrocution by transmission lines and/or collision with wind turbines are also likely to be low. Food availability is likely not an issue. Condor management and the related activities of the program in northern California would follow the methods and protocols in use at other release sites in the United States.

USFWS completed the *California Condor Recovery Plan* in 1996 (USFWS 1996). To contribute to the recovery of the species, the recovery plan calls for reestablishing self-sustaining populations of condors in the wild. Action alternative 1 would have a beneficial effect on condor recovery by more quickly re-colonizing the northern portion of the species' historical range, and it would help USFWS meet recovery goals if release efforts are successful in establishing a population that is reproductively self-sustaining. Therefore, action alternative 1 is likely to have a beneficial effect on condor populations, condor recovery, and the overall health and viability of the US condor population. The condor itself is benign in the environment with minimal impacts on other species or the landscape. Impacts from other past, present, or reasonably foreseeable actions in combination with the beneficial impacts of action alternative 1 would result in beneficial cumulative impacts.

IMPACTS OF ACTION ALTERNATIVE 2

Analysis. Under action alternative 2, a California condor release program would still occur, but it would not be designated as a NEP under the 10(j) rule. Without the NEP designation, USFWS would reintroduce California condors as an endangered species under the ESA. Take of condors under the ESA would be prohibited unless authorized through an incidental take statement in a section 7 consultation, an incidental take permit through a section 10 Habitat Conservation Plan, or through a section 10 recovery permit. The State of California would likely not exempt take for the NEP—meaning that the species' "fully protected" status would remain in place. Section 7 consultations would be required for any action with a federal nexus that is likely to adversely affect the released California condor population under the proposed action. If incidental take is likely to occur, USFWS may condition incidental take authorization with reasonable and prudent measures and terms and conditions. For actions without a federal nexus that are likely to result in incidental take, project proponents would need a take authorization through a Habitat Conservation Plan. The definition of "take" under the ESA includes harm, and harm has further been defined to include significant habitat modification or degradation (64 *Federal Register* 60727).

Therefore, under this alternative, any action that may result in significant habitat modification or degradation for condors would require a take authorization through section 7 or section 10 of the ESA.

Section 10(a)(1)(A) recovery permits would be required for purposeful take of condors associated with condor management. These permits may include terms and conditions to minimize impacts on condors associated with management actions.

Under action alternative 2, protection of the California condor outside NPS and USFWS lands under the ESA would be more extensive when listed as endangered. The major activity in the project area that could affect potential condor nesting and roosting habitat is timber harvest of older forests on private, state, or tribal lands. However, as discussed under action alternative 1, nesting and roosting habitat are unlikely to be limiting factors in condor population establishment and growth because neither of these factors have shown to be limiting at other release sites. In addition, it is likely that the availability of nest sites and roost sites would not be limiting in protected areas with large old-growth trees. Trees of a size capable of producing a cavity large enough for nesting use by condors are likely to be only present in old-growth or late-seral-stage forests. The majority of remaining old-growth or late-seral-stage forest is in protected status in northern California and Oregon. Within 186 miles (300 km) of the proposed release site (i.e., the area expected to be used by condors for roosting and foraging), these protected areas include the park, Mendocino National Forest, Klamath National Forest, Six Rivers National Forest, Shasta-Trinity National Forest, Lassen National Forest, Modoc National Forest, Winema National Forest, Umpqua National Forest, Willamette National Forest, King Range National Conservation Area, Rogue River-Siskiyou National Forest, Crater Lake National Park, and Redwood National and State Parks. Older forests on BLM-managed lands in Oregon would also contain suitable nesting and roost sites for condors. If a roost site is removed or disturbed, condors are typically able to locate and use alternate sites. In addition, at other release sites, approximately 50% of condor nests have been located on cliffs in central California (Big Sur and Pinnacles National Park) and approximate two-thirds are also on cliffs for the central and southern California release sites combined (Ventana Wildlife Society, pers. comm. Burnett 2017b). If a similar proportion of cliff nests were chosen by the northern California population, these nests would not be subject to possible removal and would still be protected from disturbance under both alternatives.

Mortality to the condor population from powerlines and wind turbines is likely to be similar to action alternative 1. Wind energy development in the release area and surrounding region is currently almost nonexistent and is likely to be limited in the future. Utility companies that construct and manage powerlines in the region are part of the 2016 *California Condor Memorandum of Understanding* and have a good record of taking corrective actions when threatened or endangered species are injured or killed from their operations. For example, near the Big Sur California condor release/management facility, PG&E has installed more than 17,692 feet of tree wire on powerlines to protect condors.

Mortality from contaminants in food supply would be similar to that described under action alternative 1. Take from the illegal use of rodenticides would not be allowed under either alternative since marijuana-growing operations that use these rodenticides are an illegal activity under federal law.

Therefore, action alternative 2 would be similar to action alternative 1 in terms of providing condors with the protections necessary for population establishment and growth.

Cumulative Impacts. Past, present, and reasonably foreseeable actions with the potential to impact California condors include installation of a telecommunications system that would place a tall tower in the area of the proposed condor release site, paving Bald Hills Road, occasional fire management activities in the release area, and condor release projects underway in southern and central California, Arizona, and Baja California, Mexico. With the exception of the paving of Bald Hills Road and fire management activities, these actions would have either beneficial or neutral impacts on condor

populations. Paving Bald Hills Road, if done after condor releases, may cause temporary, minor disturbances to released condors because of the high likelihood that condors would use the Bald Hills area for foraging and roosting activity. Fire management activities would be carefully timed to avoid impacts on the release/management facility in the park's inland region and the condors kept there. Condors may use the communication tower for perching at times, but this is unlikely to have any adverse effects on individual condors or the population. Therefore, the expected beneficial impacts of action alternative 2 on condors and condor populations would contribute to the overall beneficial cumulative impacts from these past, present, and reasonably foreseeable actions.

Conclusion. Similar to action alternative 1, the proposed establishment of a new condor population in northern California would provide short- and long-term, beneficial impacts for the California condor by reestablishing the population in its historical range. Research shows that, over time, impacts on condors from exposure to organochlorines and lead would likely be lower in northern California compared to other regions, thus contributing to recovery of the species. Mortality from electrocution by powerlines and/or collision with wind turbines is also likely to be low. Food availability is likely not an issue, and condor management and the related activities of the program in northern California would follow the methods and protocols in use at other release sites in the United States.

The same actions described under action alternative 1 would apply for action alternative 2, except that the condor population would be designated as endangered under the ESA. Therefore, incidental take would not be exempted by special rule. Incidental take would need to be authorized through section 7 or section 10 of the ESA, and section 7 consultation would be required for all projects with a federal nexus that are likely to adversely affect the California condor. Authorization for management that involves purposeful take would require a recovery permit. Habitat protections would be more stringent under action alternative 2, compared with action alternative 1; however, there would be no practical difference in the primary threats to the species between the two action alternatives.

OTHER SPECIAL-STATUS SPECIES

This section considers whether the alternatives to reintroduce the California condors to the project area could have unintended consequences for other species of wildlife, particularly federally listed species or other wildlife species that are federal or state species of concern; species sensitive to disturbance; species with low population levels or restricted ranges; or species that are otherwise important for recreational, cultural, or ecological reasons.

METHODOLOGY AND ASSUMPTIONS

When analyzing impacts on other special-status species, the project area for the proposed for the reintroduction and restoration of California condors was evaluated for the presence of these species. If species were known to occur in the area, the analysis considered if the alternative would affect the habitat and conservation strategies associated with these species and the ecological functions needed to support these species in the project area. Impacts considered included predation, displacement, loss of habitat, or other added stressors. The scale of this analysis is considered in terms of the entire project area and through the entire planning period (20 years).

Impacts are discussed in detail for other special-status species under action alternative 1. Because impacts would be the same under action alternative 1 and action alternative 2, impacts for action alternative 2 are summarized at the end of this section. For action alternative 1, each species is addressed individually. Impacts are divided between those related to facility infrastructure development and condor management. All impacts discussed in the "Facility Infrastructure Development" and "Condor Management" sections on other special-status species for action alternative 1 would be the same for action alternative 2 because

no impacts related to the establishment of a proposed 10(j) boundary would occur. Because that designation would address the status of the California condor only, no changes would occur to the status of the species listed below.

IMPACTS OF NO ACTION – ALL OTHER SPECIAL-STATUS SPECIES

Analysis. The condor restoration program would not be implemented under the no-action alternative; therefore, there would be no new construction of facilities; release of condors; condors on the landscape feeding, nesting, and roosting; or any management activities from humans. As a result, no impact on any other special-status species would occur under this alternative.

Cumulative Impacts. The no-action alternative would have no impacts; therefore, there would be no cumulative impacts on any other special-status species.

Conclusion. The no-action alternative would have no short- or long-term impact on other special-status species populations. It would also have no impact on suitable habitat for other special-status species because condors would not be released into the area, no monitoring of condors or condor nest sites would be needed, and no release facilities would be constructed. No cumulative impacts would occur.

IMPACTS OF ACTION ALTERNATIVE 1 – MARBLED MURRELET

Analysis.

Facility Infrastructure Development — Overall habitat, reproduction, and species abundance for the marbled murrelet would remain similar to that described in the “Affected Environment” section. Some localized impacts could occur from crows, ravens, or Steller’s jays that are attracted to the carcass feeding stations in the park’s inland region. A higher number of corvids at the release site or bait stations could potentially increase predation of murrelet eggs or chicks in nearby old-growth forest. Human activities are also sometimes associated with an increase in corvids that are attracted to human food resources and thus could increase the chances of predation on nesting birds (NPS 2009). However, the release site is at least 0.47 mile from any suitable marbled murrelet habitat (NPS, pers. comm. Schmidt 2017b); therefore, the potential increase of corvids near the condor feeding stations would not likely pose a threat to marbled murrelet eggs or chicks. Hebert and Golightly (2006) examined the effect of anthropogenic disturbances on nesting murrelets in the park. They found no attraction or increase in the number of corvids to murrelet nest trees when active nests were disturbed by humans walking near the nest tree or when a chain saw was operated within 82 feet (25 meters) of the nest tree.

In addition, during the majority of the murrelet breeding season in California (March 24 to September 15), most crows (mid-March to mid-June), ravens (mid-February to mid-June), and Steller’s jays (mid-March to July) would be on their own nesting territories and not in flocks or concentrated in any one area. Hebert and Golightly (2006) state that most of the corvids they observed in their human disturbance experiments at murrelet nest sites were Steller’s jays and that the species’ territoriality during the breeding season may have prevented them from approaching nest trees that were being disturbed.

Although it is not known for certain if nesting marbled murrelets are sensitive to noise disturbance, loud noise within 0.25 mile of nesting murrelets could potentially cause adults to abandon eggs or young, disrupt feeding of chicks, cause nestlings to fledge prematurely, or may flush incubating or brooding adults (61 *Federal Register* 26256–26320; Sakai 2003). This could expose both adults and young to predation. However, in the most detailed research on disturbance to nesting marbled murrelets conducted in the park, Hebert and Golightly (2006) found both adults and chicks did not flush from the nest from the presence of humans or when a chainsaw was operated within 82 feet (25 meters) of the nest tree. Adult

murrelets did spend significantly more time with their bill and head raised up when the chainsaw was operating, although chicks showed no significant change in behavior. They also found that hatching success was significantly higher at disturbed nests compared to control nests, but disturbed nests, when adults were present, often experienced nest failure. However, fledging was still 100% for nests where only the chicks were exposed to the sound of an operating chainsaw (Hebert and Golightly 2006). Based on these results, they suggest avoiding noise disturbance near nest sites when adults are incubating or when food deliveries are likely to occur, which is in the early morning or late evening hours. However, all of their artificial disturbances were within 82 to 420 feet (25 to 150 meters) of active nest trees, much closer than any disturbance that would be created by the construction of the release/management facility.

Since the release pen would likely be constructed off-site (modular-type) or be a simple structure if constructed on-site, noise and visual disturbance would be minimal while the release/management facility is installed in the park's inland region. In combination with keeping a minimum distance of 500 feet or 0.25 mile (depending on the loudness of the noise source; USFWS 2006) from any nesting habitat, the installation process is not expected to disturb murrelets because of its distance from the nearest suitable nesting habitat (0.47 mile). The same is true for any activities associated with releasing and monitoring condors at the release site. Marbled murrelets also select nest sites that are located on large branches and situated in the upper third or higher of the canopy, which also provide a visual shield between the incubating birds and human activities on the ground. As noted above, the release site pens would be at least 0.47 mile from any suitable marbled murrelet habitat.

Condor Management — Because both marbled murrelets and California condors require old-growth trees for nesting, it is possible that a murrelet and condor could use the same nest tree. At times, active condor nests would need to be climbed to: (1) check condor eggs for viability; (2) band, mark, or radio-tag juvenile condors; (3) sample blood from chicks; (4) retrieve dead or injured chicks; or (5) other reasons. Thus, measures would need to be taken to protect murrelet nests, chicks, and adults from any impacts before any climbing of a condor nest tree occurs (see below).

However, in a tree climbing study to locate murrelet nest sites in known occupied murrelet habitat in Washington and Oregon, Hamer et al. (in review) found that only 2.6% of 1,502 trees climbed contained an old or active murrelet nest (n=39 nests), and that only 1 tree, of all trees climbed, contained an active nest. This equates to a 0.06% chance of finding an active murrelet nest from climbing a mature or old-growth tree in a site occupied by murrelets. Hence, it is highly unlikely that an individual tree climbed for monitoring purposes would be occupied by an active murrelet nest.

In addition, the condor population would be initially very small, with only three to six juveniles released per year in the park. Since juveniles do not breed until six to eight years old, there would not be any mating pairs for six or more years after the initial release, assuming the project only releases juveniles. Assuming no mortality, which is unlikely, the first three nesting attempts would not occur until approximately 2025. Therefore, when released birds do start mating, the number of nests would be small, and some proportion of these nests would be located on cliffs, and not located in trees at all. At other release sites, approximately 50% of condor nests have been located in redwood trees in central California (Big Sur and Pinnacles National Park) and approximately one-third are in trees for the central and southern California release sites combined (Ventana Wildlife Society, Burnett pers. comm. 2017b). In addition, murrelet-occupied sites are known only to occur within 24 miles of the coast for California and 47 miles from the coast for Oregon (Evans-Mack et al. 2003). If a condor nest is located farther inland than these distances for these two regions, there is no likelihood of encountering an active murrelet nest in a condor nest tree.

Measures to be taken to help protect active murrelet nests from disturbance while accessing condor tree nests in the murrelets inland nesting range include scheduling tree climbing outside the murrelet breeding

season (March 24 to September 15). If scheduling a tree climbing operation cannot be planned outside the murrelet breeding season, efforts would be made to avoid any disturbance to murrelets by performing murrelet surveys to detect birds within the tree canopy using audio-visual dawn and dusk surveys. These surveys can be more effective in some forest types where tree density and tree heights are lower, resulting in better visibility. Therefore, murrelet surveys would only occur in forest types where the survey techniques are deemed to be effective.

Marbled murrelet surveys would be conducted by a certified observer near the targeted tree and adjacent trees using the Pacific Seabird Group Survey Protocol (Evans-Mack et al. 2003) for at least two mornings to attempt to verify the trees are not being used by murrelets. Although these surveys would not ensure an active murrelet nest is not in the trees, they would reduce the likelihood that an active nest tree is climbed. If murrelets were found occupying the target tree either through audio-visual surveys or while climbing, tree climbing activities would be suspended until the end of the breeding season, unless the observed murrelet nest is above a compromised condor or condor nest and putting off climbing would prevent intervention with a condor or nest believed to be at imminent risk. USFWS would be consulted if risk of take to a murrelet would be required to intervene to prevent loss of either a condor or condor nest.

If trees need to be climbed during the murrelet nesting season, they would be accessed as late in the nesting season as possible so that the likelihood of encountering an existing active nest would be low. Condor nest trees would be climbed during the mid-afternoon to early evening time window, as possible, to avoid early day and late evening murrelet parent nest visits during the chick rearing stage. The majority of murrelet feeding visits occur during the morning and evening hours and all incubation exchanges occur near sunrise or before. The available literature documents a large variation in the percentage of midday feeding visits by marbled murrelets reported during the chick stage (Nelson and Hamer 1995; Nelson and Peck 1995; Hebert and Golightly 2006; Bradley et al. 2004). Some of these studies are biased toward studying morning and evening periods and the definition of midday sometimes varied. However, only one study in six found the percentage of feeding visits during midday (out of the total feeding visits recorded during the entire day) to exceed 8.2%. Midday feeding visits were reported to be only 8.2% (Nelson and Hamer 1995), 6.7% (Nelson and Peck 1995), 3.2% (Hebert and Golightly 2006), and 1.9% (Hebert and Golightly 2006) of all feeding visits. Two of the studies did not report concrete numbers but stated midday feeding visits by adults were observed to be rare (Bradley et al. 2004). The latest midday feeding reported by Nelson and Peck (1995) was 1:55 p.m. The lack of late afternoon feeding is also supported by the data collected by Nelson and Hamer (1995) where only 3.4% of the total feeding visits occurred between 2:00 p.m. and 7:00 p.m. The data indicate that conducting tree climbing in potential murrelet nest trees after 1:00 p.m. and before 7:00 p.m. would likely greatly reduce disturbances to nesting murrelets during the chick rearing stage. If an active nest were discovered in a condor nest tree, tree climbing would stop and not resume until the chick has fledged.

Cumulative Impacts. Past, present, and reasonably foreseeable projects with the potential to affect marbled murrelets include actions that could increase predation of individual murrelets at their nests (i.e., occasional fire management activities in the release area and capital improvement projects at the park, including developing a new visitor center at Bald Hills Road and US Highway 101 and a visitor center at Jed Smith Campground, which would occur adjacent to marbled murrelet habitat). These projects would include construction that could cause temporary disruptions in adjacent habitat. In addition, the park produces an annual assessment of incidental take for operations that may have adversely affected potentially occupied marbled murrelet habitat. In 2016, the park reported incidental take for 3,271 acres of potentially occupied suitable marbled murrelet habitat that were potentially affected by noise disturbance related to park maintenance and management activities (NPS 2016b). An additional 10,544 acres of suitable marbled murrelet habitat were subjected to an increased predation threat as a result of NPS project activities and/or park visitor use.

Fire management activities are conducted in the fall after most murrelets have completed nesting; prescribed burns usually occur in September or October in the park. After a prescribed burn, flocks of ravens may be attracted to these areas looking to forage on dead insects and other small animals. (NPS, pers. comm. Schmidt 2017b). However, prescribed burns only occur approximately every five years at each prairie, and the majority of murrelets have completed nesting by September 1, before the burns typically occur. In a telemetry study on murrelets in the park, Hebert and Golightly (2006) found the latest date of fledging for any murrelet nest they monitored was September 15. Construction of the new site center and Jed Smith Campground may cause temporary minor disturbances to wild birds. However, these actions would require their own environmental analyses to ensure murrelet are protected, and preventive measures would be taken to avoid any disturbance to nesting murrelets.

All the other projects would have no effect on marbled murrelet populations. Therefore, the combination of past, present, and reasonably foreseeable projects and condor management activities would result in minimal cumulative impacts on marbled murrelets.

Conclusion. The marbled murrelet is a protected species at the federal and state levels (57 *Federal Register* 45328–4533) and any harm or harassment must be avoided. Since the feeding stations would be substantially farther away than 0.25 mile from suitable nesting habitat, this action would not affect marbled murrelets.

No harm or harassment from disturbances related to construction activities or maintenance of the release pens and feeding stations at the proposed sites or from other ground-based noise and visual disturbance to suitable murrelet nesting habitat is expected to occur. The nearest suitable murrelet nesting habitat is 0.47 mile away, and construction of the proposed release facilities would not involve heavy equipment. Stressors such as ground-based noise and visual disturbance near suitable nesting habitat are not expected to occur.

For reasons described above, the likelihood of encountering an active murrelet nest while climbing a condor nest tree would be low. With recommended measures to minimize impacts, the likelihood of directly disturbing a murrelet nest would be reduced.

IMPACTS OF ACTION ALTERNATIVE 1 – NORTHERN SPOTTED OWL

Analysis.

Facility Infrastructure Development — Noise disturbance to northern spotted owls is identified as a threat in the *Revised Recovery Plan for the Northern Spotted Owl* (USFWS 2011) and conservation strategy (Thomas et al. 1990). However, very little data currently exist that clarify how and at what levels noise affects northern spotted owls. The first park-wide inventory of the species conducted between 1993 and 1995, identified 36 northern spotted owl territories in the park (USFWS 2011). However, only two recorded nests produced fledglings in 2008, one in Del Norte Coast Redwoods State Park and one in the Miller Creek tributary of Redwood Creek (NPS, pers. comm. Schmidt 2017b), and the last spotted owl juvenile observed in the park was in 2010 in the Coyote Creek territory (NPS 2015d). Additionally, the nearest suitable spotted owl nesting habitat is 0.47 mile away from the release site. Therefore, it is unlikely that any spotted owls would be nesting near the proposed release site. Thus it is unlikely that noise generated from construction activities (from a facility constructed off-site or a simple structure constructed on-site) would have any effect on nesting spotted owls. In addition, since northern spotted owls in the park typically select nest sites inside large cavities in the crowns of tall trees, human-caused disturbance from the release pen or feeding stations would be unlikely to cause any adverse impacts.

Feeding stations and the release/management facility would be located outside any known northern spotted owl foraging, nesting, or roosting habitat (NPS 2009). The northern spotted owl breeding season is defined as February 1 to August 31 for California (USFWS 2011). Overall habitat and species abundance would remain the same as under the no-action alternative.

Condor Management — A northern spotted owl and California condor could use the same nest tree or nearby trees or forest stands because each species requires old-growth trees for nesting. At times, active condor nests would need to be climbed to monitor nests as described in the assessment of impacts on marbled murrelets. Thus, measures would need to be taken to protect owl nests, chicks, and adults from any impacts before climbing a condor nest tree is attempted.

To prevent inadvertently disturbing an active northern spotted owl nest, if possible, trees that need to be climbed for condor management activities located in suitable spotted owl nesting habitat would be climbed before or after the spotted owl breeding season (defined above). If a tree located in suitable spotted owl nesting habitat needed to be climbed during the owl nesting season, the tree and adjacent trees would be inspected before climbing for any sign of nesting activity. Nighttime calling, searching for pellets and whitewash below the tree, and inspecting the tree for any potential nesting cavities or platform nests would serve as the means for assessing spotted owl occupancy in the tree or nearby trees. In addition, state and federal databases would be reviewed prior to climbing the tree to determine if any recent or historical spotted owl nest sites or active site centers exist in the area where the nest tree is located (CDFW 2016; USFWS n.d.). In the unlikely event an active spotted owl nest is present in a tree that needs to be climbed, climbing would occur after the young have fledged.

Cumulative Impacts. The only past, present, and reasonably foreseeable actions with the potential to affect spotted owls would be occasional fire management activities in the release area and capital improvement projects at the park, including the development of a new visitor center at Bald Hills Road and US Highway 101 and a visitor center at Jed Smith Campground, which would occur adjacent to spotted owl nesting and roosting habitat. These projects would include construction that could cause temporary disruptions in adjacent habitat. In addition, the park produces an annual assessment of incidental take for operations that may have adversely affected potentially occupied northern spotted owl habitat. In 2016, the park reported incidental take for 2,214 acres of unsurveyed spotted owl habitat that were potentially affected by noise disturbance from project management and maintenance activities (NPS 2016b). Fire management activities (prescribed burning) are conducted in prairies in the fall, after spotted owls have completed nesting and do not affect spotted owl forest habitat because burning is restricted to grasslands, a habitat type that spotted owls typically avoid. Construction of the new visitor center and Jed Smith Campground may cause temporary minor disturbances to wild birds. However, these actions require their own environmental analyses to ensure spotted owls are protected, and preventive measures would be taken to avoid any disturbance to nesting owls.

Invasive plant management in the park should have no effect on spotted owls or owl populations and would likely have beneficial effects if owls return to the park. So far, less than 1% of the plant coverage in old-growth redwood forests is from exotic species. Therefore, most of the invasive weed control efforts would occur outside spotted owl habitat. In addition, for those weed control activities that occur in old-growth forest habitats, these efforts would benefit vegetation in and around the park and allow for restoration of native species, which would likely benefit owls in the long term. All the other projects would have no effect on spotted owl populations. In addition, since spotted owls have not been detected in the area of the release site or in the park in general, habitat would not be disturbed, and the likelihood of owls nesting in a condor tree would be low. Therefore, the combination of past, present, and reasonably foreseeable projects and condor management activities would result in no cumulative impacts on spotted owls.

Conclusion. The northern spotted owl was federally listed in 1990 as a threatened species in Washington, Oregon, and California. It is also state listed as threatened in California and Oregon. Suitable nesting and roosting habitat is located more than 0.25 mile from the proposed release site and feeding stations. Therefore, no high-level noises would occur within 500 feet of nesting or roosting habitat (USFWS 2006). Feeding stations and the release pen would be located outside owl foraging habitat. The likelihood of an active spotted nest occurring in a condor nest tree is very low, but the minimization measures described above to protect nesting owls make it unlikely that any nests would be disturbed or reproduction affected. Therefore, the combination of past, present, and reasonably foreseeable projects and condor management activities would result in no cumulative impacts on spotted owls.

IMPACTS OF ACTION ALTERNATIVE 1 – WESTERN SNOWY PLOVER

Analysis.

Facility Infrastructure Development — No western snowy plover habitat is located near the proposed release site; therefore, no impacts on this species related to facility infrastructure development are expected.

Condor Management — The western snowy plover has been federally listed as threatened since 1993 (USFWS 1993) with critical habitat designated in Washington, Oregon, and California (70 *Federal Register* 56969–57119; 50 CFR Part 17). The nesting season for the snowy plover extends from early March through late September, and the birds may return to the same nesting areas year after year. They nest on gravel bars, sparsely vegetated beaches, sand spits, or sandy areas above the high tide. The reintroduction of the California condor in northern California would likely lead to condors feeding on marine mammal carcasses washed up on the beaches of northern California and southern Oregon. As a result, condor biologists may need to monitor this feeding or roosting activity and access these beaches with vehicles or on foot. In addition, biologists may need to retrieve injured or dead condors from these foraging sites. Condors feeding in these areas may also attract the public to these beaches.

Driving near or walking in sensitive dune areas may result in localized, short-term impacts on foraging and nesting snowy plover habitat and nesting birds (Feucht et al. 2016). In addition to the annual snowy plover surveys mentioned in chapter 3, park staff conduct pre-project surveys to ensure that project activities on beaches would not adversely affect the snowy plover. Three beaches in the park are open to vehicle access for permitted commercial and mobility impaired recreational anglers and to members of the Yurok Tribe for conducting traditional activities (NPS 2010b). All persons in vehicles accessing park beaches must adhere to a list of conditions identified on the permit, such as observing a maximum speed limit, avoiding restricted areas, and only driving or walking on wave slope areas or areas where nesting birds do not occur. No all-terrain vehicles, dune buggies, or motorcycles are allowed at these sites (NPS 2010b). The vehicle beach access permit program continues to be successful with the exception of a few vehicles that have been found driving above the wave slope. Similar to northern California, seasonal closures and other management tools and conservation measures are employed in coastal Oregon to prevent habitat disturbance. Condor biologists monitoring the activities of condors on these beaches would follow all these guidelines to prevent disturbance to snowy plover.

If biologists need to access beaches to monitor condor activity in snowy plover habitat or known nesting areas during the breeding season, they would obtain a permit to access park beaches and adhere to the permitting guidelines above. These same guidelines would be followed in areas with known snowy plover populations in Oregon. To minimize and prevent any disturbances to snowy plover nesting habitat or productivity, before accessing beaches to monitor condors, state and federal sources of information would be reviewed to determine if any nesting snowy plover habitat or breeding populations exist at or near the site (USFWS 2017i; Data Basin 2017). At sites with known plover populations, if possible, condors

would be monitored from a distance without accessing sensitive plover nesting habitat during their breeding season. In addition, if condor monitoring or marine mammal carcass sampling needs to occur on a beach occupied, or with the potential to be occupied, by western snowy plovers, the following mitigation measures would be employed:

- In the park and within the California State Parks, NCRD, staff would adhere to the guidelines contained in *Redwood National and State Parks, Staff Responsibilities and Management Strategy for Western Snowy Plovers* (RNSP 2010). Outside the park and NCRD, the agency responsible for plover management would be contacted for beach-specific snowy plover guidelines. Each person monitoring condors at a carcass or sampling a carcass would demonstrate ability to identify snowy plovers and be a qualified surveyor as detailed by US Fish and Wildlife Service snowy plover management guidelines. If more than one person at a time is conducting this work, at least one person in the group would be a qualified surveyor.
- Prior to approaching a condor flock or a beached carcass, the area would be surveyed for snowy plover presence.
- If a plover nest were present, no vehicle or foot traffic would approach within 325 feet (100 meters) of the nest or enter an established snowy plover nest protection zone. Likewise, if a plover brood were present, there would be no approach within 325 feet (100 meters) of the brood.
- If wintering birds were located near a condor flock or beached carcass, no vehicle or foot traffic would approach within 325 feet (100 meters) of the plovers' location.
- Vehicles accessing the beach would enter at a designated vehicle access point; proceed directly to the waveslope; drive as low on the wave slope as possible until reaching the condor flock or beached carcass; avoid the wrack line; and drive 5 miles per hour or the minimal speed required to prevent becoming stuck in sand, but never exceeding a speed of 20 miles per hour.
- Trips to and from the flock or carcass would be limited to one round-trip per day, except in the case of emergency.

USFWS would be contacted for technical assistance if it were difficult to implement the mitigation measures due to proximity of a condor flock or carcass near a snowy plover nest or brood.

Cumulative Impacts. No past, present, or reasonably foreseeable projects related to this project would affect snowy plover in their beach habitats. In an annual assessment of incidental take produced for operations that may have adversely affected western snowy plover individuals, the park reported no incidental take in 2016 (NPS 2016b). In addition, stringent protective measures are in place in critical habitat zones, hence protection is ensured, and public activities would not affect snowy plovers. Therefore, the combination of past, present, and reasonably foreseeable projects and condor management activities would result in minimal cumulative impacts on the snowy plover, all of which would result from action alternative 1.

Conclusion. While there is a possibility of staff interacting with snowy plovers during condor management activities, these interactions would be brief and all applicable guidelines would be followed, resulting in short-term, minimal impacts on this species. The combination of past, present, and reasonably foreseeable projects and condor management activities would result in minimal cumulative impacts on the snowy plover, all of which would result from action alternative 1.

IMPACTS OF ACTION ALTERNATIVE 1 – HUMBOLDT MARTEN

Analysis.

Facility Infrastructure Development — The Humboldt marten is strongly associated with late-successional redwood forest, which is similar to condor preferred nesting habitat, but they can also be found in other types of forest such as in Douglas-fir/Tanoak forest association. However, the Humboldt marten is rarely detected at sites with more than 25% of open areas, even if forest connectivity is present (Hargis, Bissonette, and Turner 1999). Buskirk and Powell (1994) found that martens do not use suitable habitat patches in highly fragmented forests. Current survey data suggest that fewer than 100 Humboldt marten may remain in Humboldt and Del Norte Counties. The proposed release site is 0.47 mile from late-successional redwood forest. Therefore, the marten or its habitat would not be directly or indirectly affected during construction of the release pens or condor management activities around the release site.

Condor Management — The Humboldt marten dens and rests in large cavities of snags, large logs, and live trees. Because denning and resting habitat is essential to successful recruitment and persistence of the marten population, denning structures must be protected and active dens not disturbed. Because of the small number of active condor nests expected over time, the small number of condor nests expected to be in trees over the action period, and the small population and limited geographic range of the Humboldt marten, the likelihood of a condor nest tree containing the den or rest site of a marten is extremely small. However, condor nest trees that need to be climbed for nest monitoring purposes in the geographic range of the marten would be evaluated for potential den and rest sites before and during climbing. If a den or rest site were detected, the tree would only be climbed after the martens had finished raising their young.

Cumulative Impacts. Past, present, and reasonably foreseeable actions with the potential to affect the Humboldt marten would be capital improvement projects at the park and the 2015 *Redwood National Park Fire Management Plan*. Capital improvement projects would include the development of a new visitor center at Bald Hills Road and US Highway 101 and a visitor center at Jed Smith Campground, which would occur adjacent to suitable Humboldt marten habitat. These projects would include construction that could cause temporary disruptions in adjacent habitat. Construction of the new visitor center and the Jed Smith Campground may cause temporary, minor disturbances to martens. However, these actions would require their own environmental analyses to ensure martens are protected, and preventive measures would be taken to avoid any disturbance to denning martens.

Fire management activities (prescribed burning) are conducted in prairies in the fall after martens have completed denning and would not affect marten habitat because burning is restricted to grasslands, a habitat type that martens typically avoid. Invasive weed management in the park should have no adverse effect on martens or marten populations and would likely have beneficial effects. Prescribed burning in prairies consumes aboveground vegetation and may kill seeds of exotic species or break their dormancy, allowing later removal of the invasive plants. So far, less than 1% of the plant coverage in the old-growth redwood forests is from exotic species. Therefore, most of the invasive weed control efforts would occur outside of marten habitat. In addition, for those weed control activities that occur in old-growth forest habitats, these activities would benefit vegetation in and around the park and allow for restoration of native species, which would likely benefit martens.

In addition, since the Humboldt marten population in the park, if one exists, is very small, disturbance to martens is unlikely to occur, and the likelihood of martens residing in a condor nest tree would also be very unlikely. Therefore, the combination of past, present, and reasonably foreseeable projects and condor management activities would result in no cumulative impacts on Humboldt martens.

Conclusion. Action alternative 1 is not expected to disturb marten habitat, denning individuals, or species abundance across the project area. Other activities, such as noise created during installation of the release pen or the presence of feeding stations in the park's inland region, are unlikely to directly or indirectly affect the Humboldt marten. Overall habitat and species abundance would remain similar to that which would occur under the no-action alternative. The proposed action in this alternative is not expected to affect the Humboldt marten population within the project area because martens rarely inhabit grasslands in which the facility would be constructed. The combination of past, present, and reasonably foreseeable projects and condor management activities would result in no cumulative impacts on Humboldt martens.

IMPACTS OF ACTION ALTERNATIVE 1 – RARE COASTAL PLANTS (BEACH LAYIA, BEACH PEA, PINK SAND VERBENA, WOLF'S EVENING PRIMROSE)

Analysis.

Facility Infrastructure Development — Habitat for the listed and rare coastal plants (i.e., beach layia, beach pea, pink sand verbena, and Wolf's evening primrose) includes beach and dune areas. Because the proposed release/management facility and feeding stations would not be located in these types of habitat, no impact on the listed plant species from these facilities is expected.

Condor Management — The listed and rare coastal plants may be found in and around the designated western snowy plover critical habitat and other beach and dune areas. The reintroduction of the California condor would likely lead condors to feed on marine mammal carcasses that wash up on the beaches of northern California and southern Oregon; therefore, it is likely that condor biologists would be on-site to monitor feeding or would need to retrieve injured or dead condors from these foraging sites.

Driving near or walking in sensitive dune areas may result in localized, short-term impacts on the plants. However, all persons in vehicles accessing park beaches must obtain a vehicle permit and follow a list of conditions identified on the permit such as observing a maximum speed limit, avoiding restricted areas, and only driving or walking on wave slope areas or areas where these plants do not occur. No all-terrain vehicles, dune buggies, or motorcycles are allowed at these sites (Sakai 2003). Similar to northern California, seasonal closures and other management tools and conservation measures are employed in coastal Oregon to prevent habitat disturbance.

To minimize and prevent any disturbances to listed and rare plants, before accessing beaches to monitor condors, staff would review state and federal sources of information to determine if any exist at or near the site (Calflora n.d.). At sites with known listed and rare plant communities, condors would be monitored from a distance without accessing sensitive areas. If biologists need to access beaches to monitor condor activity in known sensitive areas, they would obtain a permit to access park beaches and adhere to the permitting guidelines above. These same guidelines would be followed for areas with known listed and rare plant communities in Oregon.

Cumulative Impacts. None of the past, present, or reasonably foreseeable projects would occur in coastal habitats where the four listed plant species occur; therefore, no cumulative impacts on the listed plant species would occur.

Conclusion. Neither the release/management facility nor the feeding stations would occur in coastal habitat where the beach layia, beach pea, pink sand verbena, and Wolf's evening primrose would be found. For condors found feeding on marine mammal carcasses that wash up on the beaches of northern California and southern Oregon, biologists would either monitor the birds from a distance beyond the habitat for the rare plant species or obtain a permit to drive on the beaches and follow the permitting guidelines to minimize any potential impacts on the plants and their habitat. Because none of the past,

present, or reasonably foreseeable projects would affect the rare coastal plants there would be no cumulative impacts on these species.

IMPACTS OF ACTION ALTERNATIVE 2 – ALL OTHER SPECIAL-STATUS SPECIES

Analysis. While the decision whether or not to establish a proposed 10(j) boundary would change the listing of the California condor, the decision would not change the status of any other species in the area, nor would it have any additional impacts on other listed species. Therefore, all impacts discussed in the “Facility Infrastructure Development” and “Condor Management” sections on other special-status species as described under action alternative 1 would be the same for action alternative 2.

Cumulative Impacts. Implementing the California condor recovery program under action alternative 2 would not change the impacts on other special-status species from those described under action alternative 1. Therefore, cumulative impacts under action alternative 2 for all other special-status species would be the same as those described for the species under action alternative 1.

Conclusion. Under action alternative 2, not having the 10 (j) component of the California condor recovery program would not change the listing status of any other listed species in the area or result in any additional impacts on these species. Therefore, impacts of implementing the California condor recovery program under action alternative 2 would result in the same impacts for all other special-status species as described under action alternative 1, including cumulative impacts.

CULTURAL RESOURCES

The NHPA and NEPA require that agencies consider the effects of any federal undertaking or action on cultural resources. NPS recognizes cultural resources as historic districts, buildings, and structures, archeological sites, cultural landscapes, ethnographic resources, and museum collections. NPS *Management Policies 2006* (NPS 2006) and Directors Order 28: *Cultural Resource Management Guidelines* (NPS 1998) call for the consideration of cultural resources in planning proposals and the concerns of traditionally associated peoples and stakeholders when making decisions about cultural resources. No museum collections are associated with this project. Potential impacts on other cultural resources are addressed below.

METHODOLOGY AND ASSUMPTIONS

The data for these analyses comes from information collected by the park, which included reports and GIS information on cultural resource locations. Impacts on cultural resources can be direct or indirect as well as beneficial or adverse. Direct impacts are those that physically alter the resources from the implementation of an activity, while indirect impacts are those that may occur inadvertently during or after an activity. These impacts can be either adverse or beneficial; adverse impacts are those that alter the integrity of the resource in a way that could change the eligibility to the national register. Beneficial impacts are those that promote the retention of important characteristics of an archeological site.

For this analysis, direct impacts associated with this project would be related to the construction of condor facilities in or near cultural resources. Indirect impacts would come from the increased presence of condors in the area. This analysis is guided by the following assumptions, which pertain to each of the resources below:

- The activities associated with the condor management plan (i.e., propagating and raising condors for release, monitoring health and behavior, and nest management) would have no impacts on cultural resources. These activities would be conducted at facilities, would not cause ground

disturbance, and/or would be short-term activities with no potential to affect cultural resources; therefore, they are not discussed in the analysis below. The analysis for each alternative focuses on facility infrastructure development that could disturb the ground, change the viewshed, or otherwise affect the range of cultural and tribal resources found at the park.

- The designation of the released population as a NEP or as endangered under the ESA relates to the status of the condors and incidental take and is not something that would affect cultural resources. Therefore, the impacts of action alternative 1 and action alternative 2 on cultural resources are anticipated to be the same.
- Because of the nature of cultural resources in this area, it is anticipated that condor nesting, perching, and feeding activities would not adversely affect cultural resources. While condors may land on these features, it is difficult to predict how they would behave. Although damage to historic structures is possible from these activities, it is not anticipated.
- Based on consultation and information provided by the Yurok Tribe, the condor is assumed to be an important ethnographic resource and implementation of the condor restoration program is essential for maintaining a population in this area.
- Consultation required under section 106 of the NHPA is ongoing and will be completed. Because the entirety of the APE has not been previously surveyed, additional investigations and protection measures may be necessary and would be implemented to avoid or mitigate possible impacts on cultural resources.

Based on these assumptions, the actions within the action alternatives that could cause adverse or beneficial impacts on cultural resources in the APE are the construction of facilities and presence of condors on the landscape.

ARCHEOLOGICAL RESOURCES

Impacts of No Action

Analysis. The California condor restoration program would not be implemented under the no-action alternative; therefore, there would be no new construction of facilities or ground-disturbing activities. The no-action alternative would not affect archeological resources under this alternative.

Cumulative Impacts. Because the no-action alternative would have no impacts, there would be no cumulative impacts.

Conclusion. The no-action alternative would have no impacts on archeological resources. There would be no cumulative impacts on archeological resources when this action is considered with other past, present, and reasonably foreseeable actions.

Impacts of Action Alternative 1

Analysis. Under action alternative 1, a condor release/management facility would be constructed in the park's inland region. This facility would include a holding area for condors, equipment storage, workspace, housing, and an office. The facility would be similar to others constructed for condor management and would be semi-permanent or a modular facility; the proposed activities would be split between the release site and the office/support facilities. Other facilities and elements to be constructed could include baiting sites, fence lines, water tanks, aversion/conditioning power poles, and the installation of gates and signage on access roads.

Direct and indirect, adverse impacts on archeological resources could occur from the construction of facilities and associated elements that would support the condor restoration program. The direct impacts would stem from ground disturbance associated with construction. Indirect impacts on archeological resources could occur if the facility is placed near an archeological site and the use of the facility leads to inadvertent damage or trespassing on the site. Indirect effects on archeological sites could occur if condors peck at or disturb artifacts scattered on the surface of archeological sites (e.g., ceramics or metals). However, this bird behavior cannot be predicted, so this assumption is speculative.

Cumulative Impacts. Past, present and reasonably foreseeable projects with the potential to affect archeological resources include those actions with the potential to cause ground disturbance such as roadway improvements, construction of park facilities, and a telecommunication facility. It is assumed that NHPA, section 106 compliance would be completed for these projects and adverse impacts would generally be avoided; therefore, these projects would not affect archeological resources either adversely or beneficially. These actions when combined with the actions under action alternative 1 would not be expected to have cumulative impacts on archeological resources.

Conclusion. There would be no impacts on archeological resources under this alternative. There would be no cumulative impacts to archeological resources when this project is considered with other past, present and reasonably foreseeable projects.

Impacts of Action Alternative 2

Analysis. As detailed in the “Methodology and Assumptions” section, the impacts of this alternative are anticipated to be the same as those described for action alternative 1 since the differences between the two alternatives relates to the status of the condor population and incidental take, which would have no potential to affect archeological resources.

Cumulative Impacts. The cumulative impacts of this alternative are anticipated to be the same as those described for action alternative 1.

Conclusion. There would be no adverse impacts or cumulative impacts on archeological resources under this alternative.

ETHNOGRAPHIC RESOURCES

Impacts of No Action

Analysis. The no-action alternative would not adversely affect ethnographic resources. The condor restoration program would not be implemented; therefore, condors would not be restored to the area. Condors, as a visible symbol on the landscape, are an ethnographic resource important to the Yurok people and implementation of the program would have a beneficial effect. The no-action alternative would not change the current conditions and therefore would not be an adverse impact.

Cumulative Impacts. There is the potential for impacts on ethnographic resources from past, present and reasonably foreseeable projects that result in the removal of these resources or lead to the introduction of new features into areas where these resources are present. Adverse impacts on ethnographic resources could also result from the maintenance and construction of facilities and infrastructure such as the telecommunications site. These adverse impacts relate to the potential loss of some ethnographic resources during construction activities and changes in views, although the adverse impacts could be temporary in nature (e.g., short-term visual changes). It is possible that some of these adverse impacts could be avoided during the section 106 process through consultation with tribes and avoidance measures.

Other cumulative impacts could lead to beneficial impacts (e.g., the fire management plan leading to a healthier ecosystem that supports other ethnographic resources). There is also the potential for beneficial impacts on ethnographic resources from the invasive species plan and the existing California condor recovery program. Overall the impacts of these past, present and reasonably foreseeable actions would be beneficial. When the adverse impacts of the no-action alternative are combined with the beneficial cumulative impacts in the project area, some additional adverse impacts are anticipated. However, the overall added adverse impacts would be minimal.

Conclusion. There would be some adverse impacts on ethnographic resources under this alternative from the lack of the condor on the landscape in the Bald Hills area. This alternative would result in some minimal adverse cumulative impacts.

Impacts of Action Alternative 1

Analysis. Impacts on ethnographic resources under action alternative 1 would be beneficial. The condor management program would be implemented, which could lead to an increased population of condors in the Bald Hills area. This increase in population would return an important ethnographic resource to an area where it was historically present.

Cumulative Impacts. Projects with the potential for impacts on ethnographic resources are the same as those described under the no-action alternative. Overall, the cumulative impacts of those projects would be largely beneficial. When the beneficial impacts of those projects are combined with the beneficial impacts of the action alternative, cumulative impacts would also be beneficial.

Conclusion. Impacts under this action alternative would be beneficial from the presence of condors in the Bald Hills. Cumulative impacts would also be beneficial.

Impacts of Action Alternative 2

Analysis. The impacts of this action alternative are anticipated to be the same as those described for action alternative 1 since the differences between the two alternatives relates to the status of the condor population and incidental take and would not affect ethnographic resources.

Cumulative Impacts. The cumulative impacts of this alternative are anticipated to be the same as those described for action alternative 1.

Conclusion. Impacts under this action alternative would be beneficial from the increased presence of the condor in the Bald Hills area. Cumulative impacts under this action alternative would also be beneficial.

HISTORIC BUILDINGS, STRUCTURES AND DISTRICTS

Impacts of No Action

Analysis. There would be no impacts on historic buildings, structures, or districts under this alternative. No facilities would be constructed within or adjacent to these resources.

Cumulative Impacts. Because the no-action alternative would have no impact on historic buildings, structures, and districts, there would be no cumulative impacts.

Conclusion. There would be no impacts on historic buildings, structures, or districts under the no-action alternative and no cumulative impacts.

Impacts of Action Alternative 1

Analysis. Direct adverse effects on historic buildings, structures, and features could occur under action alternative 1 through the addition of bird spikes or other modern bird deterrent devices to historic structures. Direct impacts on historic roads could also occur from increased traffic and the installation of gates and signage. Indirect, adverse impacts on historic buildings, structures, and districts could also occur under action alternative 1. The construction of new facilities in the Bald Hills area has the potential to occur near a number of historic buildings and structures and within the Lyons Ranches Rural Historic District. This could lead to indirect, adverse impacts from the introduction of new elements to the area that could alter the setting or views of these resources. However, given the size of the proposed facilities, these impacts would be minimal. It is assumed that any impacts would be avoided or mitigated through the section 106 compliance process for the facility. Additionally, facilities would be constructed to minimize adverse visual effects.

Cumulative Impacts. Past, present, and reasonably foreseeable projects with the potential to affect historic buildings, structures, and districts include the facilities or infrastructure construction and maintenance that introduce new features or visual elements near these resources. The proposed telecommunications facility may cause some adverse impacts because of its high visibility. The remaining projects would have no impact on the resources present in the project area. The potential for adverse impacts from the telecommunication facility coupled with those of action alternative 1 (i.e., introduction of new features in the Lyons Ranches Rural Historic District) would result in the potential for some minor, adverse cumulative impacts under this alternative. However, action alternative 1 would add minimally to cumulative adverse impacts, and given the nature of the facilities being considered under this alternative.

Conclusion. Adverse impacts on historic buildings, structures, and district could occur under this alternative from the addition of new features on the landscape. These impacts would be avoided and/or minimized through the section 106 process. There is also the potential for some adverse cumulative impacts from the introduction of new features in the historic district from the introduction of the telecommunications facility combined with the condor release/management facility.

Impacts of Action Alternative 2

Analysis. The impacts of this alternative are anticipated to be the same as those described for action alternative 1 since the difference between the two alternatives relates to the status of the condor population and incidental take and would not affect cultural resources, including historic buildings, structures, or districts.

Cumulative Impacts. The cumulative impacts of this alternative are anticipated to be the same as those described for action alternative 1.

Conclusion. Adverse impacts on historic buildings, structures, and district could occur under this alternative from the addition of new facilities. These impacts would be avoided and/or mitigated through the section 106 process. There is also the potential for some adverse cumulative impacts from the introduction of new features in the historic district from the introduction of the telecommunications facility combined with the condor release/management facility.

CULTURAL LANDSCAPES

Impacts of No Action

Analysis. No impacts on Lyons Ranches Rural Historic District cultural landscape would occur under the no-action alternative. No facilities would be constructed; therefore, no new, potentially intrusive visual elements would be added.

Cumulative Impacts. Because there would be no impacts under the no-action alternative, there would be no cumulative impacts.

Conclusion. The no-action alternative would have no impacts or cumulative impacts on the cultural landscape.

Impacts of Action Alternative 1

Analysis. Adverse impacts on the cultural landscape could occur under action alternative 1. These impacts stem from the introduction of new features that could negatively affect the integrity of the Lyons Ranches Rural Historic District cultural landscape. In particular, the addition of these facilities could affect the spatial organization, buildings, and structures in the landscape from changes in views and in the relationship of buildings and features to one another and introduce modern infrastructure into a historic district that is largely free of such intrusions (NPS 2004). However, these impacts are anticipated to be minimal given the size of the facility. Any impacts are expected to be avoided and/or minimized during the section 106 process.

Cumulative Impacts. Past, present, and reasonably foreseeable projects with the potential to affect the Lyons Ranches Rural Historic District cultural landscape include roadway improvements, the proposed telecommunication facility, fire management plan, and invasive species plan. The roadway improvements and telecommunication facility could contribute adverse impacts by adding intrusive elements to the landscape. The fire and invasive species management plans may contribute short-term, adverse impacts by altering the setting of the landscape; however, these impacts would be temporary and would ultimately lead to beneficial impacts because they could aid in the maintenance of vegetation and the natural systems and features, both of which are important characteristics of the landscape. When these adverse cumulative impacts are considered together with the impacts described under the action alternative 1, the alternative would contribute some adverse cumulative impacts. The adverse cumulative impacts of action alternative 1 would be minimal and temporary.

Conclusion. Adverse impacts on the cultural landscape could occur under action alternative 1. These impacts would be avoided and/or minimized through the section 106 process. There would be minimal adverse cumulative impacts under this alternative.

Impacts of Action Alternative 2

Analysis. The impacts of this alternative are anticipated to be the same as those described for action alternative 1 since the differences between the two alternatives relate to the status of the condor population and incidental take and would not affect cultural landscapes.

Cumulative Impacts. The cumulative impacts of this alternative are anticipated to be the same as those described for action alternative 1.

Conclusion. Adverse impacts under action alternative 2 could occur from the addition of new features on the cultural landscape. These impacts could be avoided and/or minimized through the section 106 process. There would be minimal and temporary, adverse cumulative impacts under this alternative.

TRIBAL RESOURCES

METHODOLOGY AND ASSUMPTIONS

The Bald Hills are located in the ancestral territory of the Chilula and Yurok Tribes, who have lived in the area since time immemorial (ancient or timeless). While no longer a distinct group, the Chilula descendants that survived European contact and conflict are now affiliated with the nearby Hoopa Tribe. The landscape and resources of this area are integral to the tribes, who use this area for hunting and gathering and as a travel corridor between the coast and inland. The condor is also an integral resource for the Yurok people because of its prominent place in their history and customs. An increase in condors in the Bald Hills area would be beneficial to tribal resources.

IMPACTS OF NO ACTION

Analysis. If the condor management program is not implemented in the Bald Hills area, there would be no adverse impacts on tribal resources. Condor populations would likely eventually recover in the area, but not immediately. The no-action alternative would not change the current conditions and therefore would not be an adverse impact.

Cumulative Impacts. Past, present, and reasonably foreseeable projects with the potential to affect tribal resources include the telecommunications facility. The telecommunications facility could cause adverse impacts by disrupting tribal use of this area. It is possible that some of these adverse impacts could be avoided during the section 106 process through consultation with tribes and mitigation measures. The invasive species plan and existing California condor recovery program have the potential for beneficial impacts on tribal resources by contributing to positive environmental conditions that facilitate plant and animal growth and encourage condor recovery. When these impacts are considered with the adverse impacts of the no-action alternative, the overall added adverse impacts would be minimal.

Conclusion. Impacts on tribal resources under this alternative would not be adverse because, in the short term, the continued absence of the condor from an area where it was historically would not alter the current status of tribal resources. While cumulative impacts from the telecommunications facility could occur, these impacts could be mitigated through the section 106 process; other aspects of the no action alternative would likely prove beneficial.

IMPACTS OF ACTION ALTERNATIVE 1

Analysis. Impacts on tribal resources would be beneficial under this alternative because of the implementation of the condor management program and the presence of the condor population in the Bald Hills and the YAT. The presence of the bird itself is important to the Yurok people, and its presence would facilitate the continuation of important traditions.

Cumulative Impacts. Projects with the potential for impacts on tribal resources are the same as those described under the no-action alternative. Given the predominately beneficial impacts associated with those projects and the beneficial impacts of action alternative 1, cumulative impacts could be beneficial.

Conclusion. This alternative would have beneficial impacts on tribal resources by facilitating the recovery of condor in the Bald Hills area and allowing for the continuation of important cultural

traditions. Cumulative impacts would be beneficial when this alternative is considered with past, present, and reasonably foreseeable projects.

IMPACTS OF ACTION ALTERNATIVE 2

Analysis. The impacts of this alternative are anticipated to be the same as those described for action alternative 1 because the differences between the two alternatives relate to the status of the condor population and incidental take and would not affect cultural landscapes.

Cumulative Impacts. The cumulative impacts of this alternative are anticipated to be the same as those described for action alternative 1.

Conclusion. Impacts under action alternative 2 would be beneficial because of the increased population of condors in the Bald Hills area. Cumulative impacts from the increase of an important tribal resource coupled with other projects aimed at improving the environmental conditions of the park would also be beneficial.

SOCIOECONOMICS

The CEQ regulations implementing NEPA state that when economic or social effects and natural or physical environmental effects are interrelated, the EA must discuss these effects on the human environment (40 CFR 1508.14). CEQ regulations further state that the “human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.” This socioeconomic analysis evaluates how the action alternatives could affect elements of the human environment such as employment, income, and impacts on timber harvesting, wind farms, electricity transmission lines, and tourism operations.

METHODOLOGY AND ASSUMPTIONS

The analysis of socioeconomic impacts considers potential effects on employment, population, and revenue from natural resource-related activities, energy transmission, and park visitors that may result from the California condor restoration under each alternative. Impacts for this resource topic were analyzed using information on population, employment, and key regional industry sectors provided by the US Census Bureau and USFS. Subject matter experts performed a qualitative analysis based on professional judgment supported by the information described above. As described in chapter 3, the proposed 10(j) boundary and associated regulations were revised to exempt energy transmission and wind turbine related industries from incidental takings. To better facilitate the comparison of the alternatives for this topic, impacts from action alternative 2 are presented first in the analysis below followed by the impacts of action alternative 1.

Short-term impacts are those occurring in the first 20 years, and assumes the release of up to six condors annually. Long-term impacts would be those occurring after the initial release of condors has concluded, through a recovered population, or 20 years, whichever comes first.

Analysis Area. The area of analysis for socioeconomic impacts resulting from the alternatives includes the two counties that, in part, make up the range of the restored condor population. The two-county ROI includes Humboldt and Del Norte Counties. The area of analysis for socioeconomic impacts is expanded beyond the boundaries of the ROI to include the proposed 10(j) boundary area because some population and industries that could potentially experience socioeconomic impacts from condor restoration are, particularly for the timber industry, located outside the ROI.

Issues Analyzed. The analysis of impacts on socioeconomics under each alternative is based on the following issue statements that are identified in chapter 1:

- The reintroduction of condors could potentially affect businesses or landowners that may not be able to maintain normal operations when condors are present without take authorization or exemptions. Mitigation measures may be required to prevent takes. Specific concerns have been raised about the timber industry, wind industry, and electricity transmission lines.
- Tourism and park visitation revenue may be affected by changes in park visitation associated with visitors trying to see condors.

IMPACTS OF NO ACTION

Analysis. Under the no-action alternative, no condors would be released into the park or YAT. A self-sustaining population of condors in the park or YAT is not expected under this alternative in the short term; however, condors would likely eventually re-occupy the area in the long term. Potential future impacts of this unknown condition are not assessed here. Current management conditions in the park would continue.

Communities — Under the no-action alternative, no impacts on population or communities identified in the socioeconomics baseline described in chapter 3 are anticipated because condors would not be released into the park or YAT, and both the park and YAT would continue to be managed using current management techniques.

Employment, Income and Sales — No impacts on employment, income or sales related to tourism, timber harvesting, wind turbine operations, electric transmission lines, or park staff are anticipated under this alternative.

Timber Harvest, Wind Turbines, Electricity Transmission and Tourism — Timber harvesting operations, wind turbines, electricity transmission, and tourism are not anticipated to be affected under the no-action alternative because condors would not be released in the park or YAT.

Cumulative Impacts. Because socioeconomics would not be affected under this alternative, cumulative impacts would not occur.

Conclusion. Under the no-action alternative, no impacts on socioeconomics would occur because condors would not be restored in the park or YAT. No cumulative impacts would occur under the no-action alternative.

IMPACTS OF ACTION ALTERNATIVE 2

Analysis. Under action alternative 2, a condor restoration program would be implemented, and facilities for the program would be constructed in the park. USFWS would not designate the restored population as a NEP under this alternative. Condors in this population would be designated as endangered under the ESA. Regulations for an endangered species, established by USFWS, would be in effect. No exemptions for incidental take would be permitted.

Employment, Income and Sales — Action alternative 2 could affect employment, income and sales related to tourism, timber harvest, and wildlife management. Impacts on these sectors, with the exception of wildlife management, are described separately in the sections below. The largest potential for increases in employment resulting from this alternative would likely occur in wildlife management, when program staff, who may include specialty contractors, would be hired to conduct monitoring activities. The

additional employment generated from these hires would have a beneficial effect on local income and sales in the ROI because these new employees would spend salaries on housing, food, and services within the ROI. No employment related to NPS interpretative staff is anticipated; current NPS interpretive specialists at the park are expected to be able to fill this role.

Timber Harvest — The proposed condor release area would be located in the park. This federally managed land area is not used for active timber harvest; therefore, no impacts associated with timber harvesting would occur in the park. A NEP would not be designated, and condors would be endangered under the ESA. The lack of an established NEP would eliminate the potential flexibility for reduced regulatory requirements for certain industries, including the timber industry; incidental takes by the timber industry would also be considered a violation of the ESA.

Within and adjacent to the ROI (approximately up to 62 miles [100 km] from the release site), but outside the park, it is possible that the release of condors could adversely affect USFS, BLM, and private lands with active timber production if condors nest in areas where timber is harvested. As described in chapter 2, under the NEP designation, tree felling and chainsaws would be prohibited within 656 feet (200 meters) of an active condor nest. If a condor nested in an active timber production area, it is anticipated that a radius of 656 feet (200 meters) around the tree, equivalent to 31 acres, would be affected. This may affect up to 1,240 MBF of harvestable timber, which would represent about half a percent of the harvestable timber that occurred in the ROI on private lands in 2012. Timber values on this land could be worth between \$620,000 and \$930,000.¹ Any affected stands of timber located on USFS lands would likely be less valuable given USFS's history of less homogeneous timber cuts and timber harvests that are primarily undertaken for maintenance reasons (USFS 2017b; Yurok Tribe, pers. comm. West 2018).

A nesting pair of condors would nest for up to one year with a fledgling in the same nest. It is possible that an unsuccessful nesting pair may continue to use the nest for the following year and subsequent years depending on breeding success and other lifecycle factors. Harvestable timber land around this nest would be temporarily taken out of production during this period; however, as soon as the nest is unoccupied after the nesting season, the land would be available for harvesting again. Additionally, because condors generally prefer to nest in cliffs, old-growth trees, and generally in less accessible land that might otherwise not be available to timber harvesting because of its remoteness or relative high cost to log, impacts on actual timber harvest lands would likely be limited. Furthermore, the total value of impacts expressed above can be considered a conservative upper limit representing a relatively clean, valuable stand of timber that would not be considered average timber harvesting lands. As described in chapter 3, although condor nesting activity is not limited to trees, when it does occur, it is typically in old-growth trees that are large enough to readily accommodate the nest and whose age exceeds that of the majority of average western timber harvest age (40 to 59 years old) (USFS 2002). Therefore, it is anticipated that these nesting preferences would result in a relatively low likelihood of condors selecting active timber harvesting locations for nesting sites.

Condors would not nest until the cohorts reach about six years old. Initially, release impacts are expected to be minimal because the population would be relatively small. Potential risks for nesting activity and incidental takes would increase over the long term as the population becomes more established. Provided

¹ A circle with a radius of 656 square feet is equivalent to 1,351,940 square feet or an area of approximately 31 acres. It is possible to get approximately 40 MBF per acre of timber from a relatively clean mixed redwood and fir stand. If 31 acres of harvestable timberland is temporarily taken out of production, this amounts to 1,240 MBF of timber. Relatively clean fir stands would yield approximately \$500 per MBF in sales value, and redwood stands would yield approximately \$750 per MBF in sales value, with an upper value of impact between \$620,000 and \$930,000 on private timber land (Yurok Tribe, pers. comm. West 2018).

that private timber companies comply with the 10(j) distance regulations and actively identify hollow-tree cavities, broken top trees, and active condor nests prior to the start of work, financial impacts associated with take violations by the timber industry could be mitigated. However, incidental takes that occur by timber harvesters would be prohibited, and associated penalties would be enforced. Both costs to obtain necessary take permits and costs associated with penalties would adversely affect timber harvesters as would costs to comply with avoiding take.

Under action alternative 2, the potential for lost work hours and employment would be little to none, based on the small number of condors initially released in the short term. If a nest were identified, impacts could be mitigated by allowing workers to harvest other lands if available. Some intermittent, temporary impacts on employment and income of site workers would be possible if other lands are not available for harvest and depending on the length of time an active nest is in an available timber harvest zone. Some small intermittent impacts on timber harvesting operations could occur related to interruptions from nearby monitoring biologists who, upon receiving a mortality signal, may inquire with property owners and ask for land access. Timber harvesting may have to halt temporarily during assessment by biologists though this would likely be rare and intermittent, resulting in negligible impacts on timber operations. In the long term, the potential for these impacts increases; however, given the relatively low number of nesting pairs that would be in the wild, the large foraging range of these species, and the predilection of the species to choose nesting trees that are not generally associated with timber harvesting, it is likely that long-term impacts would also be negligible.

Tourism — Visitation to the park could increase from visitors trying to see released condors in the wild. Park visitation fees and local visitor spending in restaurants and tourism companies may increase as a result, supporting local jobs and income; however, these impacts may or may not materialize. These impacts would likely be beneficial but negligible given their size relative to the larger size of the economy in the ROI.

Wind — Under action alternative 2, the lack of a proposed 10(j) boundary could affect wind facilities within or adjacent to the ROI. Without specified industry exemptions or unless authorized through section 7 or section 10 of the ESA, incidental takes that occur on or by wind facilities would be prohibited, and associated penalties would be enforced. Both costs to obtain take permits and costs associated with penalties would adversely affect the wind facilities. Post-release, NPS would monitor condors visually and via radio telemetry. However, wind facilities in the ROI may voluntarily choose to employ additional mitigations such as radar and GPS tracking to detect condors from flying near assets. Such mitigations would require significant up-front costs; therefore, moderate, adverse impacts on wind facilities are expected. In addition, while such mitigations may be effective in reducing the risk of taking, risks for incidental takes would continue to exist and would increase over the long term as the population becomes more established. Direct, adverse impacts on annual sales and profits by wind facilities are anticipated in the event of an incidental take or in order to avoid a take.

Transmission — Under action alternative 2, the lack of a proposed 10(j) boundary could affect transmission utilities within or adjacent to the ROI. Without specified industry exemptions or unless authorized through section 7 or section 10 of the ESA, incidental takes that occur on or by transmission utilities would be prohibited, and associated penalties would be enforced. Post-release, NPS would monitor condors visually and via radio telemetry; condors would also undergo utility aversion training. However, transmission utilities in the ROI may choose to employ additional mitigations such as insulating powerlines and power poles to protect condors from such assets. These mitigations would require significant up-front costs; therefore, moderate, adverse impacts on transmission utilities are expected. In addition, while such mitigations may be effective, risks for incidental takes would continue and would increase over the long term as the population becomes more established. Direct, adverse

impacts on annual sales and profits by transmission utilities are anticipated in the event of an incidental take or in order to avoid a take.

Cumulative Impacts. Past, present, and reasonably foreseeable actions with the potential to cumulatively contribute to socioeconomics impacts under action alternative 2 include ongoing NPS roadway paving, improvement, and removal projects; installation of a telecommunications facility and new visitor center; NPS fire management operations; and invasive plant management. Additional ongoing and reasonably foreseeable actions with potential socioeconomic impacts outside the park include the *Humboldt County General Plan and Plan Update* and the *Yurok Tribe Blue Creek Management Plan*.

Cumulative impacts on park visitors would result from NPS resource management and facility development. However, some trails, roads, and sections of the park may need to close occasionally to motorized vehicles for construction, maintenance, or fire suppression activities, which could result in temporary reductions in tourism while these areas are closed for these activities.

Ongoing and reasonably foreseeable future projects outside the park including Humboldt County developments and the *Yurok Tribe Blue Creek Management Plan*, could provide some local jobs and income to the ROI. Forest restoration as part of the *Yurok Tribe Blue Creek Management Plan* may provide some new economic opportunities for tribal members. The objective of the management plan is to maintain and preserve a forested area that was formerly used for timber operations (California State Coastal Conservancy 2014). Harvestable timberland has been taken out of production as part of the preservation of this land area and because this land agreement has already been established, future impacts on timber operations as part of land management are not anticipated. The impacts that remaining cumulative projects may have on timber operations are not known at this time.

Overall, cumulative actions would result in both adverse and beneficial impacts on employment, income, and sales in the ROI based on shifts in tourism spending and increased local employment and wages for new projects.

Impacts on timber operations would be limited to those cumulative actions occurring in areas outside the park, either within or immediately adjacent to the ROI. While the past actions associated with the *Blue Creek Management Plan* have taken harvestable timberland out of production, this acquisition has been part of an ongoing land agreement, and future impacts on timber operations from this agreement are not anticipated. At this time past, present, and reasonably foreseeable future actions for the remaining cumulative projects occurring outside the park and related to timber harvesting operations are not known. Action alternative 2 would contribute both adverse and beneficial impacts as described above, associated with the release of six condors annually into the park for up to 20 years without a proposed 10(j) boundary. As a result, when the primarily adverse and beneficial impacts of action alternative 2 are combined with the effects of other cumulative actions within or immediately adjacent to the ROI, an overall beneficial cumulative impact with adverse impacts on specific socioeconomic resources is expected.

Conclusion. Under action alternative 2, impacts would be both adverse and beneficial, albeit negligible, on employment and tourism. Impacts on wind energy production, energy transmission, and timber harvests would be greater than those described under action alternative 1, below. Impacts on these industries would be measurable and adverse because of the absence of a proposed 10(j) boundary, which would exempt these facilities from potential incidental takes, excluding timber harvesting, with risks for adverse impacts likely increasing over time. Present and reasonably foreseeable actions would contribute beneficial and adverse impacts, primarily occurring in the park, as analyzed above. Overall, cumulative impacts on socioeconomics under action alternative 2 would be primarily beneficial. Action alternative 2

would likely result in some adverse impacts on wind and transmission utilities, with similar levels of impacts on employment and timber harvests as described for action alternative 1, below.

IMPACTS OF ACTION ALTERNATIVE 1

Analysis. Under action alternative 1, the IPT would implement a condor restoration program and construct facilities for the program in the park. A proposed 10(j) boundary would be established; program infrastructure would be developed; and programs would be implemented to retrieve, release, track, and monitor condors. Most impacts on employment and income would occur within the area of the ROI closest to the release site in the park.

Employment, Income and Sales — Impacts related to sales, income, and employment in the ROI would be the same as those described for action alternative 2.

Timber Harvest — Action alternative 1 would include a proposed 10(j) boundary, and an experimental population area would be designated. The establishment of an NEP would provide potential flexibility around reduced regulatory requirements, which could result in some decrease in regulatory and compliance costs that would benefit the timber industry, unlike under alternative 2. However, the timber industry would not be exempt from take under the 10(j) regulations under the purview of this project; therefore, incidental takes would still be considered a violation of the ESA. Because incidental takes by non-exempt industries would remain prohibited and have associated restrictions and penalties equivalent to areas where a population is deemed endangered under the ESA, socioeconomic impacts associated with timber harvest under action alternative 1 would have adverse impacts on timber harvesting where condors nest on private or public timber lands as described under action alternative 2. It is likely that reduced regulatory requirements would make alternative 1 slightly more beneficial to timber harvest operations relative to alternative 2.

Wind — Under action alternative 1, the establishment of a proposed 10(j) boundary could affect wind facilities within or adjacent to the ROI. The proposed 10(j) boundary would reduce up-front costs for regulatory compliance and the costs of an incidental take, which would result in beneficial impacts on this industry relative to action alternative 2.

Transmission — Under action alternative 1, the establishment of a proposed 10(j) boundary could affect transmission facilities within or adjacent to the ROI. The proposed 10(j) boundary would reduce up-front costs for regulatory compliance and the costs of an incidental take, which would result in beneficial impacts on this industry relative to action alternative 2.

Tourism — Impacts related to tourism would be the same as those described for action alternative 2.

Cumulative Impacts. Ongoing and reasonably foreseeable actions with the potential to contribute to cumulative effects on socioeconomics under action alternative 1 would be the same as those described for action alternative 2. Overall, cumulative actions would result in both adverse and beneficial impacts on employment, income, and sales in the ROI based on shifts in tourism spending and increased local employment and wages for new projects. Past and future impacts on timber harvesting associated with the *Blue Creek Management Plan* would be the same as those described for action alternative 2. Past, present and reasonably foreseeable future impacts from the remaining cumulative actions on timber harvesting, wind facilities, and transmission utilities outside the park are not known; therefore, they are not measurable at this time. Overall, action alternative 1 would likely result in limited, adverse impacts on timber harvesting operations, while providing some benefits related to employment, incomes, and sales in the ROI. As a result, when the primarily adverse and beneficial impacts of action alternative 1 are combined with the effects of other cumulative actions within or adjacent to the ROI, an overall

beneficial cumulative impact to employment, incomes, and sales with some adverse impacts on timber harvesting is expected.

The overall impacts on timber operations from the implementation of action alternative 1 are anticipated to be minimal in the short term, with risks for potential intermittent adverse impacts increasing over the long term.

Conclusion. As described above, action alternative 1 would contribute both adverse and beneficial, albeit negligible, impacts on employment, sales, income, and tourism by releasing six condors annually into the park for up to 20 years with a proposed 10(j) boundary. Specialty contractors may be required for monitoring activities. Overall impacts on timber harvests are anticipated to be minimal in the short term because of the lack of an established condor population. The risks for intermittent, adverse impacts would increase over the long term, although the likelihood of impact is low because of the small number of condors released annually relative to the types of forested areas most preferable for condor nesting. Past, present, and reasonably foreseeable actions would contribute both beneficial and adverse impacts to employment and tourism, primarily within the park, as noted above. Cumulative effects on socioeconomics under action alternative 1 would be predominantly beneficial. Overall, action alternative 1 would likely result in limited, adverse impacts on the timber harvests, while providing some benefits related to employment, incomes, and sales in the ROI. Beneficial effects on socioeconomics under action alternative 1 would be greater relative to action alternative 2.

CHAPTER 5

Consultation and Coordination



CHAPTER 5: CONSULTATION AND COORDINATION

This chapter describes the public involvement and agency consultation during the preparation of the *California Condor Restoration Plan and Environmental Assessment*. A combination of activities, including internal and public scoping, has helped to guide the NPS, USFWS, and Yurok Tribe in developing this EA. This chapter provides a detailed list of the various consultations initiated during the development of the document.

PLANNING AND PUBLIC INVOLVEMENT

NEPA regulations require an “early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action” (40 CFR 1501.7). The internal scoping process for this EA began in August 2016. Internal and external scoping associated with this EA has been extensive and has included multiple IPT meetings and reviews.

PUBLIC INVOLVEMENT

Public scoping for this EA began with a public scoping briefing paper, issued on January 17, 2017. The briefing paper was sent to individuals on the park’s mailing list and posted on the NPS’s Planning, Environment, and Public Comment (PEPC) website. The briefing paper described the EA’s background, the preliminary purpose and need for the project, and the preliminary issues and impact topics associated with the project. In addition to the briefing paper, the public scoping process and public scoping meetings were also announced through local media outlets and the park’s website.

The public scoping comment period was open from January 17, 2017, to February 28, 2017. During this time, the IPT provided several methods for the community to provide input on the EA. The briefing paper instructed members of the public to submit comments on the NPS PEPC website at <http://parkplanning.nps.gov/redwoodcondor>, or to send written comments to the park. Public comment forms were also available at the public scoping meetings.

The IPT held five public scoping meetings in January 2017 to solicit input on the EA. Each public meeting began with a presentation and was followed by a question and answer period, where members of the public were able to pose questions to members of the IPT. This question and answer period was followed by an open house, allowing the public to view display boards and other informational materials describing the project background and project area, the purpose of, and need for, action, and possible issues and impact topics to be analyzed in the EA. The public also had the opportunity to speak one-on-one with members of the IPT to raise concerns and have their questions answered.

During the comment period, 3,627 pieces of correspondence were received. Of those 3,627 pieces, 3,274 were form letters; the remaining 353 were non-form letters. A majority of correspondences received provided comments in support of implementation strategies aimed at condor restoration. Commenters also provided input on issues related to: the proposed experimental population and habitat range for condors; powerlines; hunters’ use of lead bullets; the use of rodenticide and other pesticides such as DDE and DDT in the proposed habitat range; and the benefits of condor restoration to the Yurok and other Native American tribes.

AGENCY CONSULTATION

NPS, USFWS, and the Yurok Tribe coordinated with relevant agencies during the preparation of this EA, as discussed in more detail below. Copies of correspondence between NPS and these agencies are provided in appendix B.

SECTION 7 OF THE ENDANGERED SPECIES ACT

Section 7 of the ESA requires federal agencies to consult with USFWS regarding the potential for proposed actions to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. As described in the “Other Special-Status Species” section of chapter 3, federally listed species and designated critical habitat occur in the project area. The Arcata Fish and Wildlife Office of USFWS is expected to concur with the NPS determination that the proposed action is likely to adversely affect federally listed threatened marbled murrelets within the project area because tree climbing to monitor condor nests would disturb nesting murrelets. USFWS is expected to authorize limited incidental take of marbled murrelets within the project area from condor nest monitoring activities. USFWS is also expected to concur with the NPS determination that the proposed action is not likely to adversely affect the northern spotted owl, western snowy plover, and beach layia. The condor reintroduction program would not affect threatened fish species within the project area. Both USFWS and NPS are members of the IPT. As a result, both agencies have been consulting throughout this process. Informal consultation was initiated in 2014 and continued throughout the planning process. NPS is currently developing a biological assessment. USFWS will review this document and issue a biological opinion. This consultation will be completed before a FONSI, if applicable, is signed.

SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT AND NATIVE AMERICAN TRIBAL CONSULTATION

On December 16, 2016, NPS and USFWS initiated government-to-government consultations with more than 60 federally recognized tribes with written correspondence. Agency officials have hosted several follow-up meetings with tribal representatives and conducted phone calls about the project with interested tribes. NPS received five responses to this consultation from the Colville Tribe, Paskenta Band of Nomlaki Indians, the Tolowa Dee-ni’ Nation, Elk Valley Rancheria, and the Sherwood Valley Band of Pomo.

Under section 106 of the NHPA, NPS is the lead agency, with the USFWS and the Yurok Tribe as consulting parties to the process. NPS initiated NHPA consultation with the state historic preservation officers of five western states and more than 60 federally recognized tribes with correspondences dated January 13, 2017. Three tribal historic preservation officers requested no further consultation (Yocha Dehe, Blue Lake Rancheria, and Stewarts Point Rancheria). State historic preservation officers from Washington, Idaho, and Nevada concurred that there would be no effect to historic properties from the proposed project in their respective states. The Washington Department of Archaeology and Historic Preservation’s State Historic Preservation Office requested to be kept informed of the process, specifically with regard to how tribes in Washington state are responding to NHPA consultations.

On September 8, 2017, NPS consulted again regarding its efforts to identify the APE for the proposed project as defined under 36 CFR 800. This correspondence was sent to four state historic preservation officers and more than 60 federally recognized tribes. In addition, NPS reached out to approximately 60 non-federally recognized tribes or individuals with geographic associations to the project area, primarily in California. NPS has received responses from the federally recognized Coquille Tribe and Susanville Rancheria and from the non-federally recognized Konkow Valley Band of Maidu.

NPS is continuing to consult with the California Office of Historic Preservation and the Oregon Parks and Recreation Department, Oregon State Historic Preservation Office and with approximately 60 federally recognized tribes as efforts to identify historic properties in the APE and determine effects on historic properties from the proposed project continue.

NPS initiated consultation with the Advisory Council on Historic Preservation on September 8, 2017, to invite the Advisory Council to participation in the NHPA process restoring California condors to the Pacific Northwest and to ask for comment on the NPS identification of the APE. The Advisory Council replied to NPS on November 11, 2017, indicating that it is choosing not to participate in this process at this time.

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Acronyms, References, Preparers, and Appendices



ACRONYMS AND ABBREVIATIONS

APE	area of potential effect
BLM	Bureau of Land Management
CCRP Partners	California Condor Recovery Plan release site managers, captive rearing and treatment facility staff, and regional coordinators
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
EA	environmental assessment
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
GPS	global positioning system
GSM	global system for mobile communications
IPT	interagency planning team
km	kilometer
MBF	million board feet
$\mu\text{g/dL}^{-1}$	micrograms per deciliter
national register	National Register of Historic Places
NCRD	California State Parks North Coast Redwoods District
NEP	nonessential experimental population
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
park	Redwood National Park
PEPC	Planning, Environment, and Public Comment
PG&E	Pacific Gas & Electric
ROI	region of influence
USC	United States Code
USFS	US Department of Agriculture, Forest Service
USFWS	US Fish and Wildlife Service
VHF	very high frequency
YAT	Yurok Ancestral Territory

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APPENDIX A—OTHER SPECIAL-STATUS SPECIES

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Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Amphibians							
California Red-legged Frog	<i>Rana draytonii</i>	Threatened	CA: Species of Special Concern		No	Yes	No- not expected to be affected by actions
Cascade Frog	<i>Rana cascadae</i>		CA: Species of Special Concern/Candidate OR: Sensitive	USFS Sensitive	No	Yes	No- not expected to be affected by actions
Clouded Salamander	<i>Aneides ferreus</i>		OR: Sensitive		No	Yes	No—not expected to be affected by actions
Coastal Tailed Frog	<i>Ascaphus truei</i>		CA: Species of Special Concern OR: Sensitive		No	Yes	No—not expected to be affected by actions
Del Norte Salamander	<i>Plethodon elongatus</i>		CA: Watch List OR: Sensitive		No	Yes	No—not expected to be affected by actions
Foothill Yellow-legged Frog	<i>Rana boylei</i>		CA: Candidate (6-21-17); Species of Special Concern OR: Sensitive-Critical	BLM Sensitive	No	Yes	No—not expected to be affected by actions
Northern Leopard Frog	<i>Lithobates pipiens</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Northern Red-legged Frog	<i>Rana aurora</i>		CA: Species of Special Concern OR: Sensitive	USFS Sensitive	No	Yes	No—not expected to be affected by actions
Oregon Spotted Frog	<i>Rana pretiosa</i>	Threatened	CA: Species of Special Concern OR: Sensitive-Critical	BLM Sensitive	No	Yes	No—not expected to be affected by actions
Red-bellied Newt	<i>Taricha rivularis</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions
Scott Bar Salamander	<i>Plethodon asupak</i>		CA: Threatened		No	Yes	No—not expected to be affected by actions
Shasta Salamander	<i>Hydromantes shastae</i>		CA: Threatened	BLM & USFS Sensitive	No	Yes	No—not expected to be affected by actions
Siskiyou Mountains salamander	<i>Plethodon stormi</i>		CA: Threatened OR: Sensitive-Critical	USFS Sensitive	No	Yes	No—not expected to be affected by actions
Southern Torrent Salamander	<i>Rhyacotriton variegatus</i>		CA: Species of Special Concern OR: Sensitive	USFS Sensitive	No	Yes	No—not expected to be affected by actions
Tailed Frog	<i>Ascaphus truei</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Western Toad	<i>Anaxyrus boreas</i>		OR: Sensitive		Yes	Yes	No—not expected to be affected by actions
Birds							
Acorn Woodpecker	<i>Melanerpes formicivorus</i>		OR: Sensitive		Yes	Yes	No—not expected to be affected by actions
American Peregrine Falcon	<i>Falco peregrinus anatum</i>		CA: Fully Protected OR: Sensitive	USFWS: Bird of Conservation Concern CDF Sensitive	Yes—Fly over only, no obs. for those prairies.	Yes	No—could nest in similar cliff or old-growth habitat but little chance of interaction
American White Pelican	<i>Pelecanus erythrorhynchos</i>		CA: Species of Special Concern OR: Sensitive		No	Yes	No—not expected to be affected by actions
Bald Eagle	<i>Haliaeetus leucocephalus</i>		CA: Endangered/Fully Protected	USFWS: Bird of Conservation Concern BLM, USFS & CDF Sensitive	No	Yes	No—could nest in similar habitat but little chance of interaction
Bank Swallow	<i>Riparia riparia</i>		CA: Threatened	BLM Sensitive	No	Yes	No—not expected to be affected by actions
Barrow's goldeneye	<i>Bucephala islandica</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Black-backed Woodpecker	<i>Picoides arcticus</i>		OR: Sensitive		No	Yes	No—not expected to be affected by actions
Black-necked Stilt	<i>Himantopus mexicanus</i>		OR: Sensitive		No	Yes	No—not expected to be affected by actions
Black Swift	<i>Cypseloides niger borealis</i>		CA: Species of Special Concern OR: Sensitive	USFWS: Bird of Conservation Concern	No	Yes (migrating & breeding)	No—not expected to be affected by actions
Black Tern	<i>Chlidonias niger</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions
Burrowing Owl (Western)	<i>Athene cunicularia hypugaea</i>		CA: Species of Special Concern	USFWS: Bird of Conservation Concern BLM Sensitive	No	Yes	No—not expected to be affected by actions
California Brown Pelican	<i>Pelecanus occidentalis californicus</i>		OR: Endangered		No	Yes	No—not expected to be affected by actions
Caspian Tern	<i>Hydroprogne caspia</i>		CA: Watch List OR: Sensitive	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Common Nighthawk	<i>Chordeiles minor</i>		OR: Sensitive		Yes- Fly overs	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Flammulated Owl	<i>Psilosops flammeolus</i>		OR: Sensitive	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Golden Eagle	<i>Aquila chrysaetos</i>		CA: Fully Protected	USFWS: Bird of Conservation Concern BLM & CDF Sensitive	Yes	Yes	Yes—The golden eagle is considered an occasional predator of California condors and adult golden eagles interact with condors at feeding sites
Grasshopper Sparrow	<i>Ammodramus savannarum perpallidus</i>		CA: Species of Special Concern OR: Sensitive		Yes	Yes	No—not expected to be affected by actions
Greater Sage Grouse	<i>Centrocercus urophasianus</i>		CA: Species of Special Concern OR: Sensitive	BLM & CDF Sensitive	No	Yes	No—not expected to be affected by actions
Greater Sandhill Crane	<i>Grus canadensis tabida</i>		CA: Threatened/Fully Protected OR: Sensitive	BLM & USFS Sensitive	No	Yes	No—not expected to be affected by actions
Great Gray Owl	<i>Strix nebulosa</i>		CA: Endangered OR: Sensitive	USFS & CDF Sensitive	No	Yes	No—not expected to be affected by actions
Harlequin Duck	<i>Histrionicus histrionicus</i>		CA: Species of Special Concern OR: Sensitive		No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Least Bittern	<i>Ixobrychus exilis</i>		CA: Species of Special Concern	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Lewis's Woodpecker	<i>Melanerpes lewis</i>		OR: Sensitive-Critical	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Loggerhead Shrike	<i>Lanius ludovicianus</i>		CA: Species of Special Concern	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Long-billed Curlew	<i>Numenius americanus</i>		CA: Watch List OR: Sensitive	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Long-eared Owl	<i>Asio otus</i>			CA: Species of Special Concern	No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	Threatened	CA: Endangered OR: Threatened	CDF Sensitive	Yes	Yes	Yes —could occur within 0.5 mile of release site and designated critical habitat is about 10 miles from the site in Prairie Creek Redwoods SP; range includes a large portion of the experimental population boundary
Northern Goshawk	<i>Accipiter gentiles</i>		CA: Species of Special Concern OR: Sensitive	BLM, USFS & CDF Sensitive	No	Yes	No—could nest in similar habitat but little chance of interaction
Northern Spotted Owl	<i>Strix occidentalis caurina</i>	Threatened	CA: Threatened/Species of Special Concern OR: Threatened	CDF Sensitive	Yes	Yes	Yes —could occur near release site; which is within 0.25 miles of suitable (unsurveyed) northern spotted owl foraging habitat (RNSP 2013). Designated critical habitat is about 8 miles from the site at Six Rivers NF; 36, mostly unoccupied, historical territories occur in the park.

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Olive-sided Flycatcher	<i>Contopus cooperi</i>		CA: Species of Special Concern OR: Sensitive-Critical	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Oregon Snowshoe Hare	<i>Lepus americanus klamathensis</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions
Oregon Vesper Sparrow	<i>Pooecetes gramineus affinis</i>		CA: Species of Special Concern OR: Sensitive-Critical	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions
Purple Martin (Western)	<i>Progne subis arboricola</i>		CA: Species of Special Concern OR: Sensitive-Critical		Yes	Yes	No—not expected to be affected by actions
Redhead	<i>Aythya americana</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions
Rock Sandpiper	<i>Calidris ptilocnemis tschuktschorum</i>		OR: Sensitive		No	Yes (nearshore)	No—not expected to be affected by actions
Short-eared Owl	<i>Asio flammeus</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions

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Swainson's Hawk	<i>Buteo swainsoni</i>		CA: Threatened/ Species of Special Concern OR: Sensitive	USFWS: Bird of Conservation Concern BLM Sensitive	No	Yes	No—not expected to be affected by actions
Tricolored Blackbird	<i>Agelaius tricolor</i>		CA: Candidate/Species of Special Concern	USFWS: Bird of Conservation Concern BLM Sensitive	No	Yes	No—not expected to be affected by action
Trumpeter Swan	<i>Cygnus buccinator</i>		CA: Fully Protected OR: Sensitive		No	Yes (OR East Cascades)	No—not expected to be affected by action
Vaux Swift	<i>Chaetura vauxi</i>		CA: Species of Special Concern		Yes	Yes	No—not expected to be affected by action
Western Snowy Plover	<i>Charadrius alexandrinus nivosus</i>	Threatened	CA: Species of Special Concern OR: Threatened	USFWS: Bird of Conservation Concern BLM Sensitive	No	Yes	Yes —not present in vicinity of release site but impacts could occur in coastal areas where condors are expected to feed at times.
White-headed Woodpecker	<i>Picoides albolarvatus</i>		OR: Sensitive-Critical		No	Yes	No—not expected to be affected by action

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Willow Flycatcher	<i>Empidonax traillii</i>		CA: Endangered	USFWS: Bird of Conservation Concern USFS Sensitive	No	Yes	No—not expected to be affected by actions
Yellow-Billed Cuckoo (western)	<i>Coccyzus americanus occidentalis</i>	Threatened	CA: Endangered	USFWS: Bird of Conservation Concern BLM & USFS Sensitive	No	Yes	No—not expected to be affected by actions
Yellow-breasted Chat	<i>Icteria virens auricollis</i>		CA: Species of Special Concern OR: sensitive-Critical		No	Yes	No—not expected to be affected by actions
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions
Yellow Rail	<i>Coturnicops noveboracensis noveboracensis</i>		CA: Species of Special Concern OR: sensitive-Critical	USFWS: Bird of Conservation Concern USFS Sensitive	No	Yes	No—not expected to be affected by actions
Yellow Warbler	<i>Setophaga petechia</i>		CA: Species of Special Concern	USFWS: Bird of Conservation Concern	No	Yes	No—not expected to be affected by actions

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Insects							
Fender's Blue Butterfly	<i>Icaricia icarioides fenderi</i>	Endangered			No	Yes	No—not expected to be affected by actions
Mardon Skipper	<i>Polites mardon</i>			S1=critically imperiled USFS Sensitive	No	Yes	No—not expected to be affected by actions
Oregon Silverspot Butterfly	<i>Speyeria zerene hippolyta</i>	Threatened			No	Yes	No—not expected to be affected by actions
Mammals							
American Pika	<i>Ochotona princeps</i>		OR: Sensitive		No	Yes	No—not expected to be affected by actions
Buena Vista Lake Ornate Shrew	<i>Sorex ornatus relictus</i>	Endangered	CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions
California Myotis	<i>Myotis californicus</i>		OR: Sensitive		Yes	Yes	No—not expected to be affected by actions
Canada Lynx	<i>Lynx canadensis</i>	Threatened			No	Yes	No—not expected to be affected by actions

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Fisher -West Coast Distinct Population Segment	<i>Pekania pennanti</i>		CA: Species of Special Concern OR: Sensitive-Critical	BLM & USFS Sensitive	Yes	Yes	No—not expected to be affected by actions
Fringed Myotis	<i>Myotis thysanodes</i>		OR: Sensitive	BLM & USFS Sensitive Western Bat Working Group: High Priority	No	Yes	No—not expected to be affected by actions
Gray Wolf	<i>Canis lupus</i>	Endangered	CA: Endangered		No	Yes	No—not expected to be affected by actions
Hoary Bat	<i>Lasiurus cinereus</i>		OR: Sensitive	Western Bat Working Group: Medium Priority	Yes	Yes	No—not expected to be affected by actions
Humboldt Marten	<i>Martes caurina humboldtensis</i>		CA: Candidate/ Species of Special Concern	USFS Sensitive	No	Yes	Yes—could occur near release site; may be attracted to the carcasses provided to the condors at the release site
Long-legged Myotis	<i>Myotis volans</i>		OR: Sensitive	Western Bat Working Group: High Priority	No	Yes	No—not expected to be affected by actions

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North American Wolverine	<i>Gulo gulo luscus</i> ⁸⁸	Proposed Threatened	CA: Threatened/Fully Protected OR: Threatened		No	Yes	No—not expected to be affected by actions
Pallid Bat	<i>Antrozous pallidus</i>		CA: Species of Special Concern OR: Sensitive	BLM & USFS Sensitive Western Bat Working Group: High Priority	No	Yes	No—not expected to be affected by actions
Point Arena Mountain Beaver	<i>Aplodontia rufa nigra</i>	Endangered	CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions
Pygmy Rabbit	<i>Brachylagus idahoensis</i>		CA: Species of Special Concern OR: Sensitive	BLM & USFS Sensitive	No	Yes	No—not expected to be affected by actions
Red tree vole	<i>Arborimus longicaudus</i>		OR: Sensitive		No	Yes	No—not expected to be affected by actions
Riparian Brush Rabbit	<i>Sylvilagus bachmani riparius</i>	Endangered	CA: Endangered		No	Yes	No—not expected to be affected by actions
Riparian Woodrat	<i>Neotoma fuscipes riparia</i>	Endangered	CA: Species of Special Concern		No	Yes	No—not expected to be affected by actions

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Sierra Nevada Red Fox	<i>Vulpes vulpes necator</i>	Candidate	CA: Threatened OR: Sensitive	USFS: Sensitive	No	Yes	No—not expected to be affected by actions
Silver-haired bat	<i>Lasionycteris noctivagans</i>		OR: Sensitive	Western Bat Working Group: Medium Priority	Yes	Yes	No—not expected to be affected by actions
Sonoma Red Tree Vole	<i>Arborimus pomo</i>		CA: Species of Special Concern		Yes	Yes	No—not expected to be affected by actions
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>		CA: Species of Special Concern OR: Sensitive-Critical	BLM & USFS Sensitive Western Bat Working Group: High Priority	Yes	Yes	No—not expected to be affected by actions
Western Red bat	<i>Lasiurus blossevillei</i>		CA: Species of Special Concern	Western Bat Working Group: High Priority	No	Yes	No—not expected to be affected by actions
Western White-tailed Jackrabbit	<i>Lepus townsendii townsendii</i>		CA: Species of Special Concern		No	Yes	No—not expected to be affected by action
White-Footed Vole	<i>Arborimus albipes</i>		CA: Species of Special Concern		No	Yes	No—nests on ground, not in trees like red tree voles

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Plants							
Adobe Sanicle	<i>Sanicula maritima</i>		CA: Rare	1B.1	No	Yes	No—not expected to be affected by actions
Applegate's Milk-Vetch	<i>Astragalus applegatei</i>	Endangered	OR: Endangered		No	Yes	No—not expected to be affected by actions
Ashland Thistle	<i>Cirsium ciliolatum</i> A		CA: Endangered	2B.1	No	Yes	No—not expected to be affected by actions
Ash Meadows Gumplant	<i>Grindelia fraxinipratensis</i>	Threatened		1B.2	No	Yes	No—not expected to be affected by actions
Baker's Meadowfoam	<i>Limnanthes bakeri</i>		CA: Rare	1B.1	No	Yes	No—not expected to be affected by actions
Bald Mountain Milk-Vetch	<i>Astragalus umbraticus</i>			2B.3	Maybe	Yes	No—if found at release site, plants could be avoided during construction, and release actions would have no effect on the plant

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Beach Layia	<i>Layia carnos</i>	Endangered	CA: Endangered	1B.1	No	Yes	Yes —Not present in vicinity of release site but impacts could occur in coastal areas where condors are expected to feed at times
Beach Pea	<i>Lathyrus japonicas</i>			2B.1	No	Yes	Yes —Not present in vicinity of release site but impacts could occur in coastal areas where condors are expected to feed at times
Bellinger's meadowfoam	<i>Limnanthes floccosa</i> ssp. <i>bellingeriana</i>	Species of Concern		1.B2	No	Yes	No—not expected to be affected by actions
Bensoniella	<i>Bensoniella oregona</i>	Species of Concern	CA: Rare	1B.1	No	Yes	No—not expected to be affected by actions
Big-flowered Woolly Meadowfoam	<i>Limnanthes pumila</i> ssp. <i>grandiflora</i>	Endangered	OR: Endangered		No	Yes	No—not expected to be affected by actions
Blueleaf Penstemon	<i>Penstemon glaucinus</i>	Species of Concern			No	Yes	No—not expected to be affected by actions

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Boggs Lake Hedge-hyssop	<i>Gratiola heterosepala</i>	Species of Concern	CA: Endangered	1B.2	No	Yes	No—not expected to be affected by actions
Bristly Gentian	<i>Gentiana plurisetosa</i>	Species of Concern		1B.3	No	Yes	No—not expected to be affected by actions
Broad-fruit Mariposa	<i>Calochortus nitidus</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Butte County Meadowfoam	<i>Limnanthes floccosa ssp. californica</i>	Endangered	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
California Dandelion	<i>Taraxacum californicum</i>	Endangered		1B.1	No	Yes	No—not expected to be affected by actions
California Wild Hollyhock	<i>Iliamna latibracteata</i>			1B.2	Maybe	Yes	No—if found at release site, plants could be avoided during construction and release actions would have no effect on the plant
Calistoga Popcornflower	<i>Plagiobothrys strictus</i>	Endangered	CA: Threatened	1B.1	No	Yes	No—not expected to be affected by actions
Chinese Camp Brodiaea	<i>Brodiaea pallida</i>	Threatened	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions

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Cliff Indian-paintbrush	<i>Castilleja rupicola</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Clustered Lady's-slipper	<i>Cypripedium fasciculatum</i>	Species of Concern	4.2		No	Yes	No—not expected to be affected by actions
Coast Yellow Leptosiphon	<i>Leptosiphon croceus</i>		CA: Candidate	1B.1	No	Yes	No—not expected to be affected by actions
Cold-water Corydalis	<i>Corydalis caseana</i> ssp. <i>aquae-gelidae</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Colusa Grass	<i>Neostapfia colusana</i>	Threatened	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Cook's Desert Parsley	<i>Lomatium cookii</i>	Endangered	OR: Endangered		No	Yes	No—not expected to be affected by actions
Cook's Lomatium	<i>Lomatium cookie</i>	Endangered			No	Yes	No—not expected to be affected by actions
Coral-seeded Allocarya	<i>Plagiobothrys figuratus</i> ssp. <i>corallicarpus</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Cox's Mariposa Lily	<i>Calochortus coxii</i>	Species of Concern			No	Yes	No—not expected to be affected by actions

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Crater Lake Rockcress	<i>Arabis suffrutescens</i> var. <i>horizontalis</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Crenulate Grape Fern (Crenulate Moonwort)	<i>Botrychium crenulatum</i>	Species of Concern		2B.2	No	Yes	No—not expected to be affected by actions
Crinite Mariposa Lily	<i>Calochortus coxii</i>	Species of Concern	OR: Endangered		No	Yes	No—not expected to be affected by actions
Dark-eyed (Manyleaf) Gilia	<i>Gilia millefoliata</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Detling's Microseris	<i>Microseris laciniata</i> ssp. <i>detlingii</i>	Species of Concern		2B.2	No	Yes	No—not expected to be affected by actions
Disappearing Monkeyflower	<i>Mimulus evanescens</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Dwarf (Woolly) Meadowfoam	<i>Limnanthes floccosa</i> ssp. <i>pumila</i>	Species of Concern	OR: Threatened		No	Yes	No—not expected to be affected by actions
Elegant (Mendocino) Gentian	<i>Gentiana setigera</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Few-flower Bleedinghearts	<i>Dicentra pauciflora</i>	Species of Concern			No	Yes	No—not expected to be affected by actions

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Gasquet (Howell's) Manzanita	<i>Arctostaphylos hispidula</i>	Species of Concern		4.2	No	Yes	No—not expected to be affected by actions
Gentner's Fritillary	<i>Fritillaria gentneri</i>	Endangered	OR: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Geysers Panicum	<i>Panicum acuminatum</i> var. <i>thermale</i>		CA: Endangered	1B.2	No	Yes	No—not expected to be affected by actions
Green Buckwheat	<i>Eriogonum umbellatum</i> var. <i>glaberrimum</i>	Species of Concern		1B.3	No	Yes	No—not expected to be affected by actions
Greene's Mariposa Lily	<i>Calochortus greenei</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Greene's Tuctoria	<i>Tuctoria greenei</i>	Endangered	CA: Rare	1B.1	No	Yes	No—not expected to be affected by actions
Hairy Orcutt grass	<i>Orcuttia pilosa</i>	Endangered	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Henderson's Bentgrass	<i>Agrostis hendersonii</i>	Species of Concern		3.2	No	Yes	No—not expected to be affected by actions
Henderson's Checkerbloom	<i>Sidalcea hendersonii</i>	Species of Concern		1B.1	No	Yes	No—not expected to be affected by actions

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Henderson's Horkelia	<i>Horkelia hendersonii</i>	Species of Concern		1B.1	No	Yes	No—not expected to be affected by actions
Hitchcock's Blue-eyed Grass	<i>Sisyrinchium hitchcockii</i>	Species of Concern		1B.1	No	Yes	No—not expected to be affected by actions
Hoover's Spurge	<i>Chamaesyce hooveri</i>	Threatened		1B.2	No	Yes	No—not expected to be affected by actions
Howell's Umbrellawort	<i>Tauschia howellii</i>	Species of Concern		1B.3	No	Yes	No—not expected to be affected by actions
Howell Camassia	<i>Camassia howellii</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Howell's Mariposa Lily	<i>Calochortus howellii</i>	Species of Concern	OR: Threatened		No	Yes	No—not expected to be affected by actions
Howell's Microseris	<i>Microseris howellii</i>		OR: Threatened		No	Yes	No—not expected to be affected by actions
Humboldt Milk-vetch	<i>Astragalus agnicidus</i>		CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Howell's Thelypody	<i>Thelypodium howellii</i> ssp. <i>howellii</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions

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Indian Valley Brodiaea	<i>Brodiaea rosea</i>		CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Keck's Checkerbloom	<i>Sidalcea keckii</i>	Endangered		1B.1	No	Yes	No—not expected to be affected by actions
Kellogg's Buckwheat	<i>Eriogonum kelloggii</i>	Species of Concern	CA: Endangered	1B.2	No	Yes	No—not expected to be affected by actions
Kellogg's Lily	<i>Lilium kelloggii</i>	Species of Concern		4.3	No	Yes	No—not expected to be affected by actions
Kincaid's Lupine	<i>Lupinus sulphureus ssp. kincaidii</i>	Threatened	OR: Threatened		No	Yes	No—not expected to be affected by actions
Kneeland Prairie Pennycress	<i>Noccaea fendleri ssp. Californica</i>	Endangered		1B.1	No	Yes	No—not expected to be affected by actions
Koehler's Rockcress	<i>Arabis koehleri var. koehleri</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Large-flowered Goldfields	<i>Lasthenia macrantha ssp. Prisca</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Large-flowered Rush Lily	<i>Hastingsia bracteosa</i>	Species of Concern	OR: Threatened		No	Yes	No—not expected to be affected by actions

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Leafy Reed Grass	<i>Calamagrostis foliosa</i>		CA: Rare	4.2	No	Yes	No—not expected to be affected by actions
Mahogany Fawnlily	<i>Erythronium revolutum</i> Sm.			2B.2	Maybe	Yes	No—if found at release site, plants could be avoided during construction and release actions would have no effect on the plant
Mapleleaf Checkerbloom	<i>Sidalcea malachroides</i>	Species of Concern		4.2	No	Yes	No—not expected to be affected by actions
Marsh Sandwort	<i>Arenaria paludicola</i>	Endangered	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Mason's Ceanothus	<i>Ceanothus masonii</i>		CA: Rare	1B.2	No	Yes	No—not expected to be affected by actions
McDonald's Rockcress	<i>Arabis macdonaldiana</i>	Endangered	CA & OR: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Mendocino Coast Indian-paintbrush	<i>Castilleja mendocinensis</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Menzies' Wallflower	<i>Erysimum menziesii</i>	Endangered	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions

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Mt. Gleason Paintbrush	<i>Castilleja gleasoni</i>		CA: Rare	1B.2	No	Yes	No—not expected to be affected by actions
Mt. Ashland Lupine	<i>Lupinus aridus ssp. Ashlandensis</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
North Coast Semaphore Grass	<i>Pleuropogon hooverianus</i>		CA: Threatened	1B.1	No	Yes	No—not expected to be affected by actions
North Umpqua (Fragrant) Kalmiopsis	<i>Kalmiopsis fragrans</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Oregon Willowherb	<i>Epilobium oreganum</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Pacific Gilia	<i>Gilia capitata ssp. Pacifica</i>			1B.2	No	Yes	No—not expected to be affected by actions
Pacific Grove Clover	<i>Trifolium polyodon</i>		CA: Rare	1B.1	No	Yes	No—not expected to be affected by actions
Palmate Salty Bird's-beak	<i>Chloropyron palmatum</i>	Endangered	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Parish's Checkerbloom	<i>Sidalcea hickmanii ssp. parishii</i>		CA: Rare	1B.2	No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Peck's Milkvetch	<i>Astragalus peckii</i>	Species of Concern	OR: Threatened		No	Yes	No—not expected to be affected by actions
Pine Hill Flannelbush	<i>Fremontodendron decumbens</i>	Endangered	CA: Rare	1B.2	No	Yes	No—not expected to be affected by actions
Pink Sand Verbena	<i>Abronia umbellata ssp. breviflora</i>	Species of Concern	OR: Endangered	1B.1	No	Yes	Yes —Not present in vicinity of release site but impacts could occur in coastal areas where condors are expected to feed at times.
Pitkin Marsh Paintbrush	<i>Castilleja uliginosa</i>		CA: Endangered	1A	No	Yes	No—not expected to be affected by actions
Playa Phacelia	<i>Phacelia inundata</i>	Species of Concern		1B.3	No	Yes	No—not expected to be affected by actions
Point Reyes Bird's-beak	<i>Cordylanthus maritimus ssp. Palustris</i>	Species of Concern	OR: Endangered	1B.2	No	Yes	No—not expected to be affected by actions
Point Reyes Blennosperma	<i>Blennosperma nanum var. robustum</i>		CA: Rare	1B.2	No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Profuse-flowered Mesa Mint	<i>Pogogyne floribunda</i>	Species of Concern		4.2	No	Yes	No—not expected to be affected by actions
Prostrate Buckwheat	<i>Eriogonum prociduum</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Pumice Grape-fern	<i>Botrychium pumicola</i>		OR: Threatened		No	Yes	No—not expected to be affected by actions
Purdy's Fritillary	<i>Fritillaria purdyi</i>	Species of Concern		4.3	No	Yes	No—not expected to be affected by actions
Red Hills Vervain	<i>Verbena californica</i>	Threatened	CA: Threatened	1B.1	No	Yes	No—not expected to be affected by actions
Red Mountain Catchfly	<i>Silene campanulata</i> ssp. <i>Campanulate</i>		CA: Endangered	4.2	No	Yes	No—not expected to be affected by actions
Red-root Yampah	<i>Perideridia erythrorhiza</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Rough Popcornflower	<i>Plagiobothrys hirtus</i>	Endangered	OR: Endangered		No	Yes	No—not expected to be affected by actions
Salt Marsh Bird's-beak	<i>Chloropyron maritimum</i> ssp. <i>Maritimum</i>	Endangered	CA: Endangered		No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
San Francisco Bluegrass	<i>Poa unilateralis</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
San Francisco Popcornflower	<i>Plagiobothrys diffusus</i>		CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Santa Ynez False Lupine	<i>Thermopsis macrophylla</i>		CA: Rare	1B.3	No	Yes	No—not expected to be affected by actions
Seaside Bittercress	<i>Cardamine angulate</i>			2B.1	No	Yes	No—not expected to be affected by actions
Sebastopol Meadowfoam	<i>Limnanthes vincularis</i>	Endangered	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Sexton Mountain Mariposa Lily	<i>Calochortus indecorus</i>		OR: Endangered (possibly extinct)		No	Yes	No—not expected to be affected by actions
Shiny-fruited Allocarya	<i>Plagiobothrys lamprocarpus</i>	Presumed Extinct	OR: Endangered		No	Yes	No—not expected to be affected by actions
Shortpod Thelypody	<i>Thelypodium brachycarpum</i>	Species of Concern		4.2	No	Yes	No—not expected to be affected by actions
Showy Rancheria Clover	<i>Trifolium amoenum</i>	Endangered		1B.1	No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Silvery Phacelia	<i>Phacelia argentea</i>	Species of Concern	OR: Threatened		No	Yes	No—not expected to be affected by actions
Siskiyou Checkerbloom	<i>Sidalcea malviflora ssp. Patula</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Siskiyou Daisy	<i>Erigeron cervinus</i>	Species of Concern		4.3	No	Yes	No—not expected to be affected by actions
Siskiyou Mariposa Lily	<i>Calochortus persistens</i>	Species of Concern	CA: Rare	1B.2	No	Yes	No—not expected to be affected by actions
Siskiyou Monardella	<i>Monardella purpurea</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Siskiyou Willowherb	<i>Epilobium siskiyouense</i>	Species of Concern		1B.3	No	Yes	No—not expected to be affected by actions
Slender Orcutt Grass	<i>Orcuttia tenuis</i>	Threatened	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Smallflower Deathcamas	<i>Zigadenus micranthus</i> Eastw. var. <i>fontanus</i> (<i>Toxicoscordion fontanum</i>)	Species of Concern		4.2	No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
The Lassics Lupine	<i>Lupinus constancei</i>		CA: Candidate	1B.2	No	Yes	No—not expected to be affected by actions
Tidestrom's Lupine	<i>Lupinus tidestromii</i>	Endangered	CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Tompkins' Sedge	<i>Carex tompkinsii</i>		CA: Rare	4.3	No	Yes	No—not expected to be affected by actions
Tracy's Eriastrum	<i>Eriastrum tracyi</i>	Threatened	CA: Rare	3.2	No	Yes	No—not expected to be affected by actions
Tree Anemone	<i>Carpenteria californica</i>		CA: Threatened	1B.2	No	Yes	No—not expected to be affected by actions
Trinity Buckwheat	<i>Eriogonum alpinum</i>		CA: Endangered	1B.2	No	Yes	No—not expected to be affected by actions
Umpqua Mariposa Lily	<i>Calochortus umpquaensis</i>	Species of Concern	OR: Endangered		No	Yes	No—not expected to be affected by actions
Vine Hill Manzanita	<i>Arctostaphylos densiflora</i>		CA: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
Water Howellia	<i>Howellia aquatilis</i>	Threatened		2B.2	No	Yes	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Wayside Aster	<i>Eucephalus vialis</i>	Species of Concern	OR: Threatened		No	Yes	No—not expected to be affected by actions
Western Bog Violet	<i>Viola primulifolia ssp. occidentalis</i>	Species of Concern		1B.2	No	Yes	No—not expected to be affected by actions
Western Goblin (Mountain Moonwort)	<i>Botrychium montanum</i>	Species of Concern		2B.2	No	Yes	No—not expected to be affected by actions
Western Lily	<i>Lilium occidentale</i>	Endangered	CA & OR: Endangered	1B.1	No	Yes	No—not expected to be affected by actions
White Meconella	<i>Meconella oregana</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Western Necklacepod	<i>Sophora leachiana</i>	Species of Concern			No	Yes	No—not expected to be affected by actions
Western Ragwort	<i>Packera hesperia</i>	Species of Concern		2B.2	No	Yes	No—not expected to be affected by actions
Whitebark Pine	<i>Pinus albicaulis</i>	Candidate			No	No	No—not expected to be affected by actions

Common Name	Scientific Name	Federal Listing Status ^{1,2,3,4,5}	State Listing Status ^{1,2,3,4,5}	California Natural Diversity DB Rank/Other State Status ⁶	Present in Vicinity (1/2 mile) of Release Site?	Expected Near Other Condor Feeding (186 miles [300km]) and Nesting (62 miles [100 km]) Areas?	Retained for Analysis? Why or Why Not?
Wolf's Evening-Primrose	<i>Oenothera wolfii</i>	Species of Concern	OR: Threatened	2B.2	No	Yes	Yes —Not present in vicinity of release site but impacts could occur in coastal areas where condors are expected to feed at times.
Yreka Phlox	<i>Phlox hirsute</i>	Endangered	CA: Endangered	1B.2	No	Yes	No—not expected to be affected by actions
Reptiles							
California Mountain Kingsnake	<i>Lampropeltis zonata</i>		OR: Sensitive		No	Yes	No—not expected to be affected by actions
Coast Horned Lizard	<i>Phrynosoma blainvillii</i>		CA: Species of Special Concern	BLM Sensitive	No	Yes	No—not expected to be affected by actions
Western Pond Turtle	<i>Actinemys marmorata</i>		CA: Species of Special Concern OR: Sensitive-Critical	BLM & USFS Sensitive	No	Yes	No—not expected to be affected by actions
Western Rattlesnake	<i>Crotalus oreganus</i>		OR: Sensitive		Yes	Yes	No—not expected to be affected by actions

¹Federal and state listing status from California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB), Special Animals List, July 2017.

²State and federally listed endangered, threatened, and rare plants of California, July 2017.

APPENDIX A

³Federally listed, proposed, candidate, delisted species and species of concern under the jurisdiction of the US Fish and Wildlife Service that may occur within Oregon. US Fish and Wildlife Service, Oregon Fish and Wildlife Office, October 2016.

⁴Threatened, endangered, and candidate fish and wildlife species in Oregon. Oregon Fish and Wildlife, June 2017.

⁵Sensitive species list, Oregon Department of Fish and Wildlife, 2016.

⁶California Natural Heritage Database status from California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB), Special Vascular Plants, Bryophytes, and Lichens List, July 2017.

California Rare Plant Ranks:

1A. Presumed extirpated in California and either rare or extinct elsewhere

1B. Rare or endangered in California and elsewhere

2A. Presumed extirpated in California, but more common elsewhere

2B. Rare or endangered in California, but more common elsewhere

3. Plants for which we need more information - Review list

4. Plants of limited distribution - Watch list

References

<https://birdsna.org/Species-Account/bna/home>

<http://www.calflora.org/>

<https://ecos.fws.gov/ecp/>

<http://explorer.natureserve.org/servlet/NatureServe?init=Species>

<http://www.oregon.gov/ODA/programs/PlantConservation/Pages/ListedPlants.aspx>

<https://plants.usda.gov/>

<https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range>

APPENDIX B—CONSULTATION CORRESPONDENCE

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C.L. "Butch" Otter
Governor of Idaho

Janet Gallimore
Executive Director

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Statewide Historic Sites
• Franklin Historic Site
• Pierce Courthouse
• Rock Creek Station and
Stricker Homesite

25 January 2017

Karin Grantham
Redwood National Park
PO Box 7
Orick, California 95555

Re: California Condor Protection and Restoration Plan / SHPO# 2017-390

Dear Ms. Grantham:

Thank you for consulting with our office on the above referenced project. We understand the scope of work includes infrastructure improvements and potential rulemaking by the U.S. Fish and Wildlife Service relative to the establishment of a thriving California condor population, within its historic range and breeding areas, through a reintroduction program centered at Redwood National Park.

As the aforementioned infrastructure improvements will be limited to Redwood National Park, and activities within the State of Idaho will be limited to release programs, our office finds the proposed project actions to have **no effect** to historic properties within Idaho. If you have any questions or the scope of work changes, please contact me via phone or email at 208.488.7468 or matt.halitsky@ishs.idaho.gov.

Thank you again for including our office in the discussion of this interesting and valuable project.

Best of luck,

Matthew Halitsky, AICP
Historic Preservation Review Officer
Idaho State Historic Preservation Office





Allyson Brooks Ph.D., Director
State Historic Preservation Officer

January 24, 2017

Mr. Stephen Prokop
Redwood National Park
PO Box 7
Orick, California 95531

Re: Condor Protection & Restoration Plan Project
Log No.: 2017-01-00487-NPS

Dear Superintendent Propkop;

Thank you for contacting our department. We have reviewed the materials you provided for the proposed Condor Protection & Restoration Plan Project in the Redwood National Park, Humboldt County, California.

We appreciate your outreach to us and have no comments on your proposed plan. We wish you success in your efforts.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4) and your determination of effect when it is available.

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised.

Thank you for the opportunity to comment

Sincerely,

A handwritten signature in blue ink, appearing to read 'Rob Whitlam', is written over a horizontal line.

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 890-2615
email: rob.whitlam@dahp.wa.gov





United States Department of the Interior

Redwood National Park

1111 Second Street
Crescent City, California 95531

H4217 (Condors)

September 8, 2017

Mr. Rob Whitlam, State Archeologist
Department of Archeology and Historic Preservation
1100 Capitol Way South, Suite 30
Olympia, Washington 98501

Re: California Condor Protection and Restoration Plan, Redwood National Park

As stated in our January 13, 2017 correspondence, the National Park Service (NPS), United States Fish and Wildlife (USFWS) and the Yurok Tribe are proposing to restore California Condors to the Pacific Northwest by establishing a release facility in the Bald Hills region of Redwood National Park, and support facilities in Orick, Humboldt County, California (Figure 1).

The purpose of this letter is to continue our consultations with your office on the potential effects of this federal undertaking on historic properties that are eligible for or listed in the National Register of Historic Places in accordance with the National Historic Preservation Act (NHPA) (Public Law 89-665; 54 U.S.C. 470 et seq. as amended) and its implementing regulations 36 CFR 800. Specifically, this correspondence seeks to:

- Clarify agency roles and responsibilities in carrying out the proposed project.
- Seek your concurrence that the NPS and the consulting parties have adequately defined the Area of Potential Effect (APE) for this undertaking that includes locations for the release facility, for support facilities, as well as modifications to buildings near the release site (Figures 1-5);
- Update you on the status of public and Tribal consultations.
- Inform you that further consultation with your office will occur, when historic properties within the APE are identified, and effects to historic properties from implementation of the California Condor restoration program at Redwood National Park are assessed.

Agency Roles and Responsibilities

NPS

For the purposes of complying with Section 106 of the NHPA and its implementing regulations 36 CFR 800.2, the NPS is the lead agency for this undertaking to restore California Condors to the Pacific Northwest. All infrastructure development associated with the project would occur within the boundary of Redwood National Park on lands administered by the NPS.

USFWS

The USFWS is a consulting party to this Section 106 NHPA process. As part of this undertaking the USFWS would issue Endangered Species Act permits to the NPS and the Yurok Tribe to carryout activities associated with handling and caring for the Condors as part of the project.

In addition, the USFWS could promulgate a proposed rule to designate a Non-essential Experimental Population (NEP) for the Condor under Section 10(j) of the Endangered Species Act, which would include the identification of the geographic scope of such a population (the NEP area). Designating a reintroduced population as a nonessential experimental population allows the USFWS to customize the regulatory protections for that population under the Endangered Species Act for the joint purposes of minimizing impacts to stakeholders while ensuring that the reintroduced population will contribute to the conservation of the species.

The USFWS has provided a preliminary delineation of a possible NEP area in Figure 2. Alternatively, the California Condors released from Redwood National Park could receive the full protections of the Endangered Species Act. Public and Tribal consultations are being conducted to determine whether the USFWS will move forward with proposing a NEP, and what the scope of such designation should include.

Both the issuance of the permits and promulgation of regulations could apply across state lines in California, Oregon and Nevada, but are strictly administrative actions. No infrastructure developments, or actions that have the potential to affect historic properties are part of the USFWS proposed actions.

Yurok Tribe

The Yurok Tribe is a consulting party to this Section 106 NHPA Process. If the project occurs, the Yurok Tribe would be required to apply for recovery permits issued by USFWS under the Endangered Species Act. The Yurok Tribal Council has passed a resolution stating that recommendations from a formal National Environmental Protection Act process will satisfy a pre-decisional environmental assessment requirement for the Tribe to support further Condor reintroduction actions.

Lead SHPO

For the purposes of this Section 106 NHPA consultation, the NPS assumes that the State Historic Preservation Officer of California is the lead SHPO.

As stated above, actions having the potential to effect historic properties from the proposed project to restore California Condors are expected to be limited to locations in Redwood National Park on lands administered by the NPS.

However because the proposed action also includes administrative decisions by the USFWS that may include areas outside Redwood National Park, including portions of northwest California, Oregon, and northwest Nevada, the SHPOs of all of these states are respectfully being consulted to concur with this proposed approach to 36 CFR 800. The states of Idaho and Washington are no longer being considered in this process.

The SHPOs of California, Oregon and Nevada have not yet responded to our initiation of the Section 106 NHPA process for this project submitted in January 13, 2017.

Area of Potential Effect

The NPS, USFWS and Yurok Tribe are seeking your input into defining the Area of Potential Effect for the proposed undertaking (Figures 1, 3, 4, and 5). The Area of Potential Effect for the proposed undertaking to restore California Condors to the Pacific Northwest, considers the potential for direct, indirect, visual and auditory effects to historic properties from the proposed action, which will be the undertaking. The APE includes 1,511 acres at three different sites in Redwood National Park. These include: 1. The proposed release sites at Airstrip and Counts Hill Prairies (545 acres) (Figure 3); 2. Administrative infrastructure alternative site at the former South Operations Center (18 acres) (Figure 4); 3. Schoolhouse Peak Fire-Lookout Tower (948 acres) (Figure 5).

Direct Effects to Historic Properties

Direct effects to historic properties could occur from ground disturbance needed to construct infrastructure such as release pens, utilities, water related features, and security fences associated with the Condor restoration program. Ground disturbance has the potential to disturb historic or precontact era sites, districts, features or objects located within the APE. These could include the Bald Hills Archeological District, which is listed in the National Register of Historic Places; the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; and the Klamath to Korb Road (aka the K&K Road), which is known to be over 50 years old, but has not yet been evaluated for listing in the National Register of Historic Places.

Other direct effects to historic properties could include damage or modifications to historic fabric, finishes, landscape features, or settings from the placement of release pens and other associated infrastructure. Direct effects may also be from the adaptive reuse of existing historic-era buildings, structures or features needed to support the administration and management of a Condor restoration program at Redwood National Park. Such effects may include the use of the former Redwood National Park South Operations Center in Orick (Figure 4) for offices, equipment or storage. In addition, a nearby fire-lookout tower sits on a peak near the release site (Figure 5), and will likely be modified to deter Condors from perching on the tower and its associated antennas and repeaters.

Other direct effects to historic properties may need to be considered, as project planning continues.

Indirect, Visual, and Auditory Effects to Historic Properties

Indirect effects to historic properties from implementation of the Condor restoration program could include downhill erosion created from the long-term use and maintenance of infrastructure such as fences, water related features, and roads. Erosion could adversely affect archeological sites, features, or deposits.

Visual effects could also be expected to historic properties depending on the orientation and placement of infrastructure, which may be seen from within or adjacent to historic districts such as the Lyons Ranches Rural Historic District, Bald Hills Archeological District, Bald Hills Ethnographic Landscape, and Yurok Tribal Landscape.

Auditory effects could occur from the presence of personnel and the use of equipment, such as generators, or use of vehicles in the vicinity of historic properties, such as historic or tribal cultural landscapes, and traditional plant gathering locations.

Other indirect, visual and auditory effects to historic properties may need to be considered, as project planning continues.

Identification of Historic Properties

As defined, historic properties currently known within the APE for the proposed Condor restoration program undertaking include the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; is in the vicinity of the Bald Hills Archeological District, which is listed in the National Register of Historic Places; and is located near other historic period resources such as the Klamath to Korbel Road.

Another facility under consideration for administrative use includes the former Redwood National Park South Operations Center in Orick, California that is historic in age, but would require further evaluation to determine if it meets the criteria for listing in the National Register of Historic Places. The NPS has recently submitted documentation to the California SHPO for an unrelated project that this facility is not eligible for inclusion in the National Register of Historic Places. The NPS is awaiting concurrence from the California SHPO on this determination.

The fire-lookout tower on Schoolhouse Peak will likely need to be modified. It was originally built in about 1941, but was extensively modified in 1976. The NPS determined that the fire-lookout was ineligible for listing in the National Register of Historic Places in 1999 with consensus from the California SHPO.

The California Condor plays a significant spiritual and cultural role to the Yurok Tribe, and may also be important to other neighboring Tribes such as Hupa, Tolowa, and Karuk. The views to/from the Yurok Tribal Cultural Landscape, and Chilula ancestral territory will be considered. Tribal activities within respective cultural landscapes will continue parallel and complementary to Condor reintroduction actions. Additional issues will be identified through consultation.

Further steps to identify historic properties within the APE, will include but not be limited to the following:

- conducting literature reviews and background research of Redwood National Park files, local libraries and institutions; reviewing historical maps and air photos; and gathering remote sensing information from data sources such as LiDAR.
- conducting archeological surveys;
- conducting historical landscape and visual assessments;
- preparation of reports to document results and findings of identification efforts; and
- continuing to conduct Section 106 NHPA consultations with the public, federally recognized Tribes and non-federally recognized individuals and groups.

Tribal Consultation

Approximately 70 federally recognized Tribes across Northern California, Oregon, and northwest Nevada, have been contacted via letter correspondences to Tribal Heritage Preservations Officers. Follow-up phone calls and emails have been made to THPOs and/or federally recognized Tribes in Humboldt and Del Norte Counties California. These correspondences specifically addressed consultations for Section 106 NHPA

The NPS and USFWS also initiated separate government-to-government consultations under Executive Order 13175 with these federally recognized Tribes through correspondences dated December 16, 2016, which invited Tribes to request face-to-face meetings with NPS and USFWS officials.

Currently the NPS is also seeking comments on the project from approximately 70 additional non-federally recognized Tribes and individuals.

The following is a brief summary of Tribal consultation activity and responses to date:

- California
 - Blue Lake Rancheria THPO. No comments. Project outside Tribe's area of concern
 - Bear River Band Rohnerville Rancheria, THPO. Direct phone communication by NPS official with THPO.
 - Elk Valley Rancheria. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Hoopa Valley Tribe. A face-to-face government-to-government consultation meeting was held on April 7, 2017. Further consultations are needed.
 - Karuk Tribe, THPO. Direct phone communication with THPO from NPS official.
 - Paskenta Band of Nomlaki Indians. Request to update Tribal Chair contact information.
 - Sherwood Valley Rancheria, THPO. No need for government-to-government consultation, but requested additional information about Condors and Condor biology for the interest of Tribal members. Sherwood Valley has stories of Condors in their area. The THPO was referred to the project website which was developed for the public and contains information on the project and Condor biology. She was also provided contact information for Yurok Tribe's Condor Biologist for specific questions related to Condor biology.
 - Stewart's Point Rancheria, Kashia Band of Pomo Indians THPO. No comments or concerns, project outside aboriginal territory.
 - Tolowa Dee-ni' Nation. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Trinidad Rancheria. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Wiyot Tribe, THPO. Direct phone communication with THPO from NPS official.
 - Yocha Dehe THPO. Declined to comment, project outside aboriginal territory.
- Oregon
 - Confederated Tribes of the Colville Reservation, THPO. No questions, concerns or comments, but mentioned the historical presence of Condors along the Columbia River and The Dalles.
 - Coquille THPO: Defers to local Tribes surrounding the park, however they had questions regarding Section 10(j) of the Endangered Species Act. A conference call with Tribal and NPS officials was held on February 8, 2017 to discuss the project and any concerns. A Follow-up email was also sent to Tribal officials on March 23, 2017.
- Other
 - Modoc Tribe of Oklahoma. A face-to-face meeting was held on May 11, 2017 in Yreka California with NPS, USFWS and a Tribe official. No further comments have been received to date.

Public Scoping

Public comment on the scope of the project took place January 17 to February 28, 2017. The NPS, USFWS, and Yurok Tribe held a series of public scoping meetings to help develop this possible range of alternatives to be considered. The meetings were held January 23 through the 26, 2017 in Eureka, CA; Sacramento, CA; Klamath, CA; Medford, OR; and Portland, OR. Approximately 3,574 comments have been received to date.

Conclusion

The NPS, USFWS and Yurok Tribe seek your concurrence that the APE has been adequately identified for the purposes of this project to restore California Condors to Redwood National Park. If you have any comments or questions regarding this project, please contact:

Karin Grantham, Chief of Resource Management and Science
Redwood National Park
PO Box 7, Orick, CA 95555
(707) 465-7710
karin_grantham@nps.gov

We look forward to hearing your concerns and comments.

Sincerely,

A handwritten signature in black ink, appearing to read "D M Roemer", written over a horizontal line.

David M. Roemer,
Acting Superintendent

Encl. (1) Figures 1-5

Draft Nonessential Experimental Population for the California Condor in the Pacific Northwest

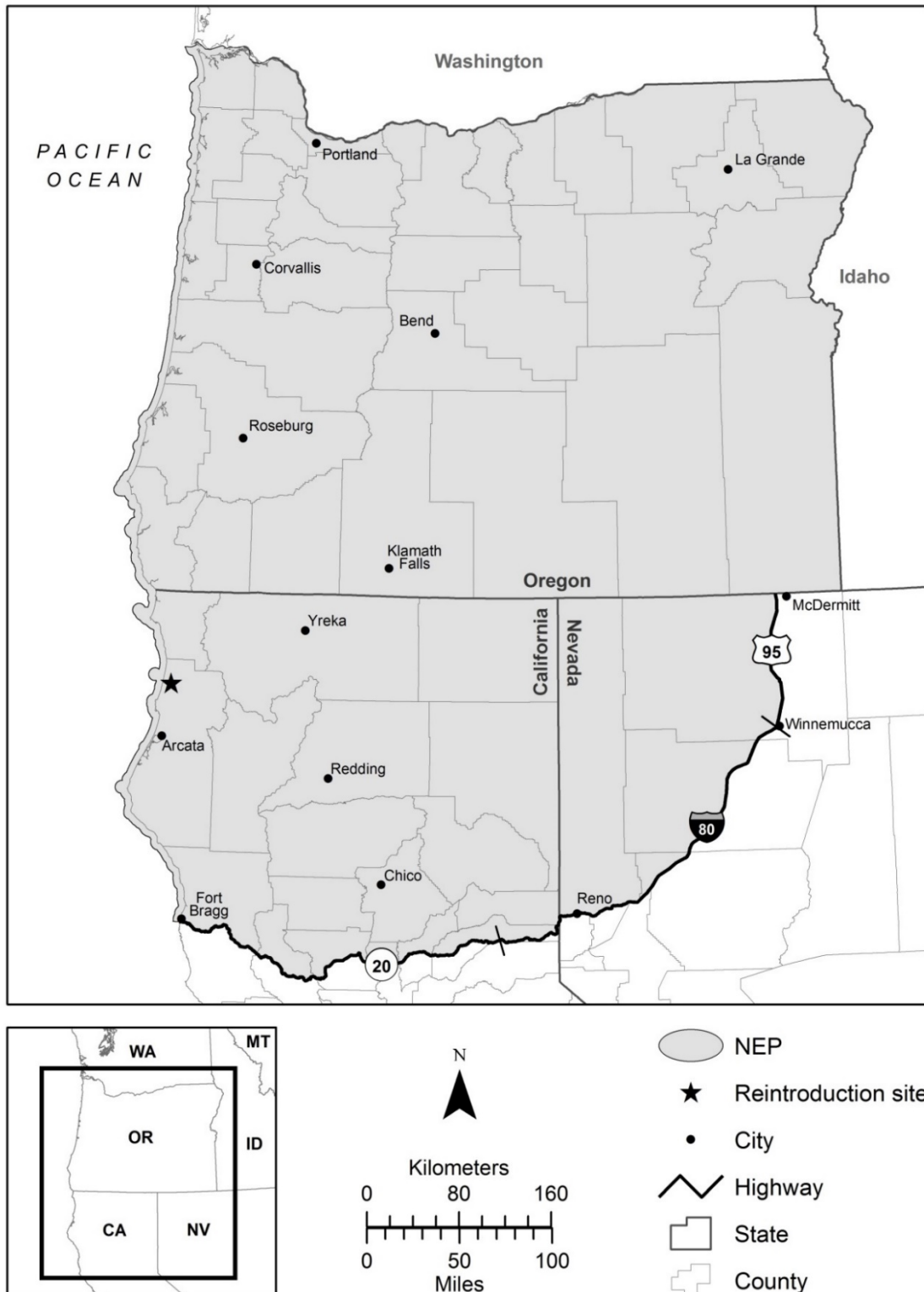


Figure 2: Draft Nonessential Experimental Population for the California Condor in the Pacific Northwest



Preserving America's Heritage

**Advisory Council on Historic Preservation
Electronic Section 106 Documentation Submittal System (e106) Form
MS Word format**

Send to: e106@achp.gov

September 8, 2017

I. Basic information

1. Name of federal agency: National Park Service

2. Name of undertaking/project (Include project/permit/application number if applicable):

Restore California Condors to the Pacific Northwest

3. Location of undertaking (Indicate city(s), county(s), state(s), land ownership, and whether it would occur on or affect historic properties located on tribal lands):

Redwood National Park, Humboldt County, California. Administered by the National Park Service

4. Name and title of federal agency official and contact person for this undertaking, including email address and phone number:

Agency Official:

David M. Roemer
Acting Superintendent
Redwood National Park
Dave_roemer@nps.gov
(707) 465-7300

Contact Persons Regarding Section 106 NHPA process:

Karin Grantham
Joint Chief of Resource Management and Science
Redwood National Park
Karin_Grantham@nps.gov
(707) 465-7710

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 □ Washington, DC 20001-2637
Phone: 202-517-0200 □ Fax: 202-517-6381 □ achp@achp.gov □ www.achp.gov

5. Purpose of notification:

- Invite the ACHP to participate in a Section 106 NHPA consultation for restoring California Condors to the Pacific Northwest.
- Invite comment on NPS identification of Area of Potential Effect at Redwood National Park.

II. Information on the Undertaking*

6. Describe the undertaking and nature of federal involvement (if multiple federal agencies are involved, specify involvement of each):

Background

The NPS, USFWS, and the Yurok Tribe are partnering in a National Environmental Policy Act (NEPA), concurrent with National Historic Preservation Act (NHPA), planning process to initiate efforts to restore California Condors, a Yurok trust species, in the Pacific Northwest. This effort would further the goal of returning the Condor to its historical geographic range. The NPS administers lands in Redwood National Park within the historical range of the Condor.

Currently, there are about 200 Condors in captivity, and about 250 in the wild. While the population has been increasing due to sustained and intensive conservation efforts, the species is still in danger of extinction. The greatest threat to the California Condor is high mortality rates due to lead poisoning by inadvertent ingestion of lead ammunition found in carcasses. Restoring Condors at Redwood National Park would add a disjunct population to current recovery efforts and contribute to Condor recovery overall by decreasing the risk of extinction.

As with earlier Condor release projects, this restoration and protection project would be a multi-entity effort involving the NPS, USFWS, Bureau of Land Management, Yurok Tribe, California Department of Fish and Wildlife, California Department of Parks and Recreation, Oregon Department of Fish and Wildlife, state funded and private zoos, some involved in Condor captive breeding, Ventana Wildlife Society, private companies, and private landowners adjacent to the park.

Purpose

The purpose of this project is for the NPS, USFWS, and Yurok Tribe to contribute to recovery of the California Condor by establishing a thriving population in their historic range and breeding areas through a reintroduction program centered at Redwood National Park.

Need

This proposed reintroduction program would further the goals outlined in the USFWS California Condor Recovery Plan. It would also meet NPS restoration goals and align with the purpose of Redwood National and State Parks, which is perpetual stewardship of ancient coast redwood forest, mountains, streams, and coastline for the enjoyment, education, and inspiration of people forever.

Much of Redwood National Park falls within Yurok ancestral territory. The Yurok Constitution requires the Tribal Council to "[r]estore, enhance, and manage the tribal fishery, tribal water rights, tribal forests, and all other natural resources". Returning the California Condor, a cultural and biological keystone species, is one piece of the larger restoration efforts ongoing by the Tribe to recover the Yurok cultural and physical landscape within Yurok Ancestral Territory. The Condor, as is believed in tradition, was the

first animal to be made by the Creator and, therefore, plays an integral role in the Yurok Tribe's worldview and serves as a symbol of the efforts to revive and maintain Yurok culture.

As Condor populations are slowly rebuilding throughout their range, the establishment of a California Condor reintroduction program at Redwood National Park would expand the geographic scope of recovery of the Condor while aligning with the Constitution of the Yurok Tribe.

The NPS Organic Act (54 USC 100101(b) et seq.) and its amendments, states that the NPS is an agency that "shall promote and regulate the use of the Federal areas...which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and such means as well leave them unimpaired for the enjoyment of future generations."

In addition, the recovery of threatened, endangered, and extirpated species is consistent with the values ascribed to Redwood National Park, is beneficial to the recovery of the species as a whole, and is a key mission of the NPS. The NPS administers lands in Redwood National Park within the historic range of the Condor.

Agency Roles and Responsibilities

NPS

For the purposes of complying with Section 106 of the NHPA and its implementing regulations 36 CFR 800.2, the NPS is the lead agency for this undertaking to restore California Condors to the Pacific Northwest. All infrastructure development associated with the project would occur within the boundary of Redwood National Park on lands administered by the NPS.

USFWS

The USFWS is a consulting party to this Section 106 NHPA process. As part of this undertaking the USFWS would issue Endangered Species Act permits to the NPS and the Yurok Tribe to carryout activities associated with handling and caring for the Condors as part of the project.

In addition, the USFWS could promulgate a proposed rule to designate a Non-essential Experimental Population (NEP) for the Condor under Section 10(j) of the Endangered Species Act, which would include the identification of the geographic scope of such a population (the NEP area). Designating a reintroduced population as a nonessential experimental population allows the USFWS to customize the regulatory protections for that population under the Endangered Species Act for the joint purposes of minimizing impacts to stakeholders while ensuring that the reintroduced population will contribute to the conservation of the species.

The USFWS has provided a preliminary delineation of a possible NEP area in Figure 2. Alternatively, the California Condors released from Redwood National Park could receive the full protections of the Endangered Species Act. Public and Tribal consultations are being conducted to determine whether the USFWS will move forward with proposing a NEP, and what the scope of such designation should include.

Both the issuance of the permits and promulgation of regulations could apply across state lines in California, Oregon and Nevada, but are strictly administrative actions. No infrastructure developments, or actions that have the potential to affect historic properties are part of the USFWS proposed actions.

Yurok Tribe

The Yurok Tribe is a consulting party to this Section 106 NHPA Process. If the project occurs, the Yurok Tribe would be required to apply for recovery permits issued by USFWS under the Endangered Species Act. The Yurok Tribal Council has passed a resolution stating that recommendations from a formal National Environmental Protection Act process will satisfy a pre-decisional environmental assessment requirement for the Tribe to support further Condor reintroduction actions.

Lead SHPO

For the purposes of this Section 106 NHPA consultation, the NPS assumes that the State Historic Preservation Officer of California is the lead SHPO.

As stated above, actions having the potential to effect historic properties from the proposed project to restore California Condors are expected to be limited to locations in Redwood National Park on lands administered by the NPS.

However because the proposed action also includes administrative decisions by the USFWS that may include areas outside Redwood National Park, including portions of northwest California, Oregon, and northwest Nevada, the SHPOs of all of these states are respectfully being consulted to concur with this proposed approach to 36 CFR 800. The states of Idaho and Washington are no longer being considered in this process.

The SHPOs of California, Oregon and Nevada have not yet responded to our initiation of the Section 106 NHPA process for this project submitted in January 13, 2017.

7. Describe the Area of Potential Effects:

The NPS, USFWS and Yurok Tribe are seeking your input into defining the Area of Potential Effect for the proposed undertaking (Figures 1, 3, 4, and 5). The Area of Potential Effect for the proposed undertaking to restore California Condors to the Pacific Northwest, considers the potential for direct, indirect, visual and auditory effects to historic properties from the proposed action, which will be the undertaking. The APE includes 1,511 acres at three different sites in Redwood National Park. These include: 1. The proposed release sites at Airstrip and Counts Hill Prairies (545 acres) (Figure 3); 2. Administrative infrastructure alternative site at the former South Operations Center (18 acres) (Figure 4); 3. Schoolhouse Peak Fire-Lookout Tower (948 acres) (Figure 5).

Direct Effects to Historic Properties

Direct effects to historic properties could occur from ground disturbance needed to construct infrastructure such as release pens, utilities, water related features, and security fences associated with the Condor restoration program. Ground disturbance has the potential to disturb historic or precontact era sites, districts, features or objects located within the APE. These could include the Bald Hills Archeological District, which is listed in the National Register of Historic Places; the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; and the Klamath to Korb Road (aka the K&K Road), which is known to be over 50 years old, but has not yet been evaluated for listing in the National Register of Historic Places.

Other direct effects to historic properties could include damage or modifications to historic fabric, finishes, landscape features, or settings from the placement of release pens and other associated infrastructure. Direct effects may also be from the use of the former Redwood National Park South

Operations Center in Orick (Figure 4) for offices, equipment or storage. In addition, a nearby fire-lookout tower sits on a peak near the release site (Figure 5), and will likely be modified to deter Condors from perching on the tower and its associated antennas and repeaters.

Other direct effects to historic properties may need to be considered, as project planning continues.

Indirect, Visual, and Auditory Effects to Historic Properties

Indirect effects to historic properties from implementation of the Condor restoration program could include downhill erosion created from the long-term use and maintenance of infrastructure such as fences, water related features, and roads. Erosion could adversely affect archeological sites, features, or deposits.

Visual effects could also be expected to historic properties depending on the orientation and placement of infrastructure, which may be seen from within or adjacent to historic districts such as the Lyons Ranches Rural Historic District, Bald Hills Archeological District, Bald Hills Ethnographic Landscape, and Yurok Tribal Landscape.

Auditory effects could occur from the presence of personnel and the use of equipment, such as generators, or use of vehicles in the vicinity of historic properties, such as historic or tribal cultural landscapes, and traditional plant gathering locations.

Other indirect, visual and auditory effects to historic properties may need to be considered, as project planning continues.

8. Describe steps taken to identify historic properties:

Identification of Historic Properties

As defined, historic properties currently known within the APE for the proposed Condor restoration program undertaking include the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; is in the vicinity of the Bald Hills Archeological District, which is listed in the National Register of Historic Places; and is located near other historic period resources such as the Klamath to Korbel Road.

Another facility under consideration for administrative use includes the former Redwood National Park South Operations Center in Orick, California that is historic in age, but would require further evaluation to determine if it meets the criteria for listing in the National Register of Historic Places. The NPS has recently submitted documentation to the California SHPO for an unrelated project that this facility is not eligible for inclusion in the National Register of Historic Places. The NPS is awaiting concurrence from the California SHPO on this determination.

The fire-lookout tower on Schoolhouse Peak will likely need to be modified. It was originally built in about 1941, but was extensively modified in 1976. The NPS determined that the fire-lookout was ineligible for listing in the National Register of Historic Places in 1999 with consensus from the California SHPO.

The California Condor plays a significant spiritual and cultural role to the Yurok Tribe, and may also be important to other neighboring Tribes such as Hupa, Tolowa, and Karuk. The views to/from the Yurok Tribal Cultural Landscape, and Chilula ancestral territory will be considered. Tribal activities within respective cultural landscapes will continue parallel and complementary to Condor reintroduction actions. Additional issues will be identified through consultation.

Further steps to identify historic properties within the APE, will include but not be limited to the following:

- conducting literature reviews and background research of Redwood National Park files, local libraries and institutions; reviewing historical maps and air photos; and gathering remote sensing information from data sources such as LiDAR.
- conducting archeological surveys;
- conducting historical landscape and visual assessments;
- preparation of reports to document results and findings of identification efforts; and
- continuing to conduct Section 106 NHPA consultations with the public, federally recognized Tribes and non-federally recognized individuals and groups.

9. Describe the historic property (or properties) and any National Historic Landmarks within the APE (or attach documentation or provide specific link to this information):

The NPS will provide a full list of Historic Properties in the APE, once identification efforts have been completed.

10. Describe the undertaking's effects on historic properties:

Assessment of effects to historic properties is still underway.

11. Explain how this undertaking would adversely affect historic properties (include information on

12. Provide copies or summaries of the views provided to date by any consulting parties, Indian tribes or Native Hawai'ian organizations, or the public, including any correspondence from the SHPO and/or THPO.

Tribal Consultation

Approximately 70 federally recognized Tribes across Northern California, Oregon, and northwest Nevada, have been contacted via letter correspondences to Tribal Heritage Preservations Officers. Follow-up phone calls and emails have been made to THPOs and/or federally recognized Tribes in Humboldt and Del Norte Counties California. These correspondences specifically addressed consultations for Section 106 NHPA

The NPS and USFWS also initiated separate government-to-government consultations under Executive Order 13175 with these federally recognized Tribes through correspondences dated December 16, 2016, which invited Tribes to request face-to-face meetings with NPS and USFWS officials.

Currently the NPS is also seeking comments on the project from approximately 70 additional non-federally recognized Tribes and individuals.

The following is a brief summary of Tribal consultation activity and responses to date:

- California
 - Blue Lake Rancheria THPO. No comments. Project outside Tribe's area of concern
 - Bear River Band Rohnerville Rancheria, THPO. Direct phone communication by NPS official with THPO.

- Elk Valley Rancheria. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Hoopa Valley Tribe. A face-to-face government-to-government consultation meeting was held on April 7, 2017. Further consultations are needed.
 - Karuk Tribe, THPO. Direct phone communication with THPO from NPS official.
 - Paskenta Band of Nomlaki Indians. Request to update Tribal Chair contact information.
 - Sherwood Valley Rancheria, THPO. No need for government-to-government consultation, but requested additional information about Condors and Condor biology for the interest of Tribal members. Sherwood Valley has stories of Condors in their area. The THPO was referred to the project website which was developed for the public and contains information on the project and Condor biology. She was also provided contact information for Yurok Tribe's Condor Biologist for specific questions related to Condor biology.
 - Stewart's Point Rancheria, Kashia Band of Pomo Indians THPO. No comments or concerns, project outside aboriginal territory.
 - Tolowa Dee-ni' Nation. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Trinidad Rancheria. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Wiyot Tribe, THPO. Direct phone communication with THPO from NPS official.
 - Yocha Dehe THPO. Declined to comment, project outside aboriginal territory.
- Oregon
 - Confederated Tribes of the Colville Reservation, THPO. No questions, concerns or comments, but mentioned the historical presence of Condors along the Columbia River and The Dalles.
 - Coquille THPO: Defers to local Tribes surrounding the park, however they had questions regarding Section 10(j) of the Endangered Species Act. A conference call with Tribal and NPS officials was held on February 8, 2017 to discuss the project and any concerns. A Follow-up email was also sent to Tribal officials on March 23, 2017.
 - Other
 - Modoc Tribe of Oklahoma. A face-to-face meeting was held on May 11, 2017 in Yreka California with NPS, USFWS and a Tribe official. No further comments have been received to date.

Public Scoping

Public comment on the scope of the project took place January 17 to February 28, 2017. The NPS, USFWS, and Yurok Tribe held a series of public scoping meetings to help develop this possible range of alternatives to be considered. The meetings were held January 23 through the 26, 2017 in Eureka, CA; Sacramento, CA; Klamath, CA; Medford, OR; and Portland, OR. Approximately 3,574 comments have been received to date.

III. Optional Information

13. Please indicate the status of any consultation that has occurred to date. Are there any consulting parties involved other than the SHPO/THPO? Are there any outstanding or unresolved concerns or issues that the ACHP should know about in deciding whether to participate in consultation?

The NPS originally consulted with the Idaho and Washington SHPOs office, because the USFWS was considering the NEP areas into these states. These states are no longer being considered for the NEP area by the USFWS.

14. Does your agency have a website or website link where the interested public can find out about this project and/or provide comments? Please provide relevant links:

Website: <http://parkplanning.nps.gov/RedwoodCondor>

15. Is this undertaking considered a “major” or “covered” project listed on the Federal Infrastructure Projects Permitting Dashboard or other federal interagency project tracking system?

No.

The following are attached to this form (check all that apply):

☐ Section 106 consultation correspondence

☒ Maps, photographs, drawings, and/or plans (Figures 1-5)

☐ Additional historic property information

☐ Other:

Draft Nonessential Experimental Population for the California Condor in the Pacific Northwest

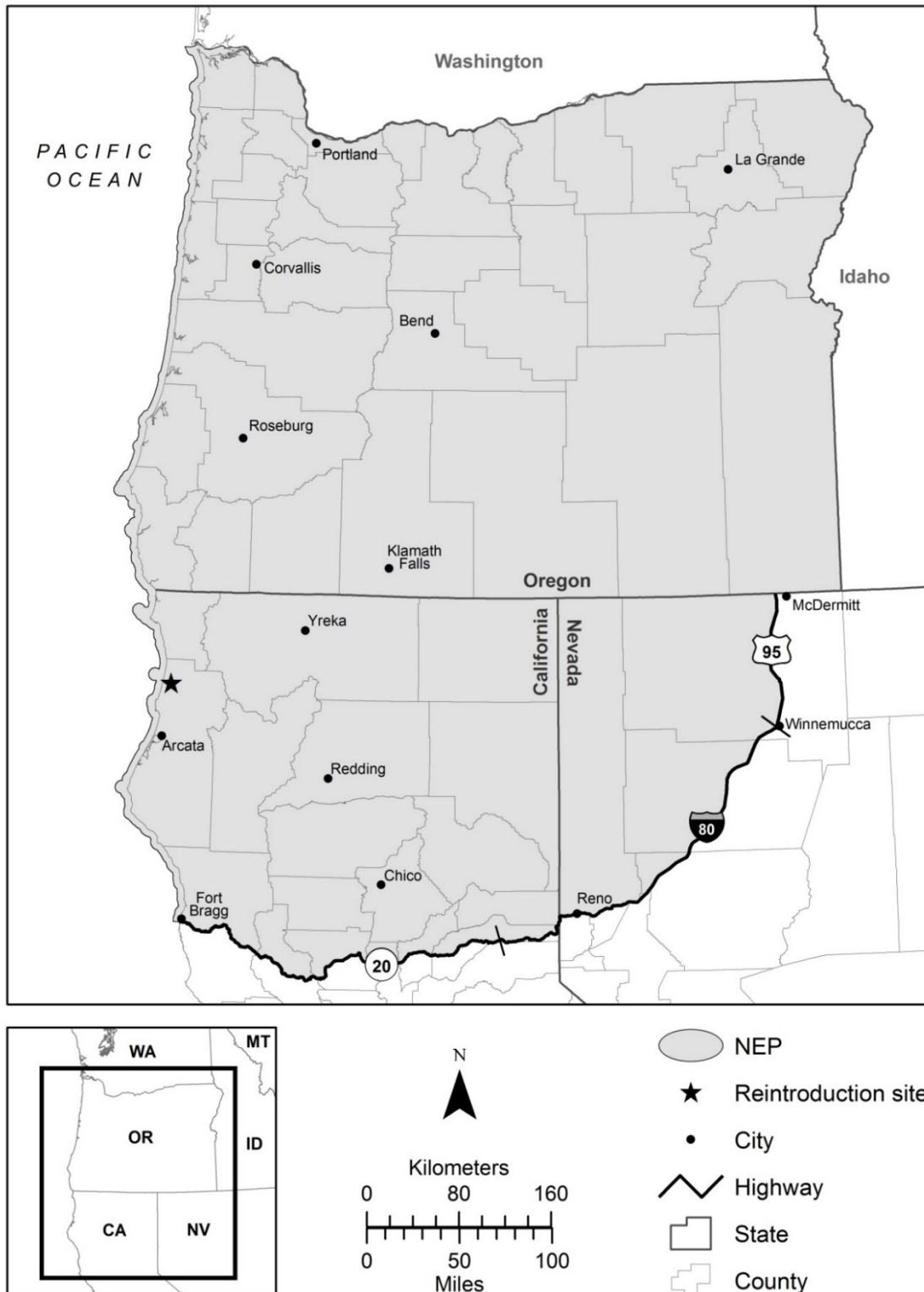


Figure 2: Draft Nonessential Experimental Population for the California Condor in the Pacific Northwest



United States Department of the Interior

Redwood National Park

1111 Second Street
Crescent City, California 95531

H4217 (Condors)

September 8, 2017

Ms. Delilah Heemsah Wyam Board Member
Celilio-Wyam Indians (Local government)
12 Celilo Village Road
The Dalles, Oregon 97058

Re: California Condor Protection and Restoration Plan, Redwood National Park

Dear Ms. Heemsah:

The National Park Service (NPS), United States Fish and Wildlife (USFWS) and the Yurok Tribe are proposing to restore California Condors to the Pacific Northwest by establishing a release facility in the Bald Hills region of Redwood National Park, and support facilities in Orick, Humboldt County, California (Figure 1).

The purpose of this letter is to seek your comments on the potential effects of this federal undertaking on historic properties that are eligible for or listed in the National Register of Historic Places in accordance with the National Historic Preservation Act (NHPA) (Public Law 89-665; 54 U.S.C. 470 et seq. as amended) and its implementing regulations 36 CFR 800. Specifically, this correspondence seeks to:

- Clarify agency roles and responsibilities in carrying out the proposed project.
- Seek your comments that the NPS and the consulting parties have adequately defined the Area of Potential Effect (APE) for this undertaking that includes locations for the release facility, for support facilities, as well as modifications to buildings near the release site (Figures 1-5);
- Update you on the status of public and Tribal consultations.
- Inform you that further communications will occur, when historic properties within the APE are identified, and effects to historic properties from implementation of the California Condor restoration program at Redwood National Park are assessed.

Background

The NPS, USFWS, and the Yurok Tribe are partnering in a National Environmental Policy Act (NEPA), concurrent with National Historic Preservation Act (NHPA), planning process to initiate efforts to restore California Condors, a Yurok trust species, in the Pacific Northwest. This effort would further the goal of returning the Condor to its historical geographic range. The NPS administers lands in Redwood National Park within the historical range of the Condor.

Currently, there are about 200 Condors in captivity, and about 250 in the wild. While the population has been increasing due to sustained and intensive conservation efforts, the species is still in danger of extinction. The greatest threat to the California Condor is high mortality rates due to lead poisoning by inadvertent ingestion of lead ammunition found in carcasses. Restoring Condors at Redwood National

Park would add a disjunct population to current recovery efforts and contribute to Condor recovery overall by decreasing the risk of extinction.

As with earlier Condor release projects, this restoration and protection project would be a multi-entity effort involving the NPS, USFWS, Bureau of Land Management, Yurok Tribe, California Department of Fish and Wildlife, California Department of Parks and Recreation, Oregon Department of Fish and Wildlife, state funded and private zoos, some involved in Condor captive breeding, Ventana Wildlife Society, private companies, and private landowners adjacent to the park.

Purpose

The purpose of this project is for the NPS, USFWS, and Yurok Tribe to contribute to recovery of the California Condor by establishing a thriving population in their historic range and breeding areas through a reintroduction program centered at Redwood National Park.

Need

This proposed reintroduction program would further the goals outlined in the USFWS California Condor Recovery Plan. It would also meet NPS restoration goals and align with the purpose of Redwood National and State Parks, which is perpetual stewardship of ancient coast redwood forest, mountains, streams, and coastline for the enjoyment, education, and inspiration of people forever.

Much of Redwood National Park falls within Yurok ancestral territory. The Yurok Constitution requires the Tribal Council to "[r]estore, enhance, and manage the tribal fishery, tribal water rights, tribal forests, and all other natural resources". Returning the California Condor, a cultural and biological keystone species, is one piece of the larger restoration efforts ongoing by the Tribe to recover the Yurok cultural and physical landscape within Yurok Ancestral Territory. The Condor, as is believed in tradition, was the first animal to be made by the Creator and, therefore, plays an integral role in the Yurok Tribe's worldview and serves as a symbol of the efforts to revive and maintain Yurok culture.

As Condor populations are slowly rebuilding throughout their range, the establishment of a California Condor reintroduction program at Redwood National Park would expand the geographic scope of recovery of the Condor while aligning with the Constitution of the Yurok Tribe.

The NPS Organic Act (54 USC 100101(b) et seq.) and its amendments, states that the NPS is an agency that "shall promote and regulate the use of the Federal areas...which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and such means as well leave them unimpaired for the enjoyment of future generations."

In addition, the recovery of threatened, endangered, and extirpated species is consistent with the values ascribed to Redwood National Park, is beneficial to the recovery of the species as a whole, and is a key mission of the NPS. The NPS administers lands in Redwood National Park within the historic range of the Condor.

Agency Roles and Responsibilities

NPS

For the purposes of complying with Section 106 of the NHPA and its implementing regulations 36 CFR 800.2, the NPS is the lead agency for this undertaking to restore California Condors to the Pacific Northwest. All infrastructure development associated with the project would occur within the boundary of Redwood National Park on lands administered by the NPS.

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The USFWS is a consulting party to this Section 106 NHPA process. As part of this undertaking the USFWS would issue Endangered Species Act permits to the NPS and the Yurok Tribe to carryout activities associated with handling and caring for the Condors as part of the project.

In addition, the USFWS could promulgate a proposed rule to designate a Non-essential Experimental Population (NEP) for the Condor under Section 10(j) of the Endangered Species Act, which would include the identification of the geographic scope of such a population (the NEP area). Designating a reintroduced population as a nonessential experimental population allows the USFWS to customize the regulatory protections for that population under the Endangered Species Act for the joint purposes of minimizing impacts to stakeholders while ensuring that the reintroduced population will contribute to the conservation of the species.

The USFWS has provided a preliminary delineation of a possible NEP area in Figure 2. Alternatively, the California Condors released from Redwood National Park could receive the full protections of the Endangered Species Act. Public and Tribal consultations are being conducted to determine whether the USFWS will move forward with proposing a NEP, and what the scope of such designation should include.

Both the issuance of the permits and promulgation of regulations could apply across state lines in California, Oregon and Nevada, but are strictly administrative actions. No infrastructure developments, or actions that have the potential to affect historic properties are part of the USFWS proposed actions.

Yurok Tribe

The Yurok Tribe is a consulting party to this Section 106 NHPA Process. If the project occurs, the Yurok Tribe would be required to apply for recovery permits issued by USFWS under the Endangered Species Act. The Yurok Tribal Council has passed a resolution stating that recommendations from a formal National Environmental Protection Act process will satisfy a pre-decisional environmental assessment requirement for the Tribe to support further Condor reintroduction actions.

Lead SHPO

For the purposes of this Section 106 NHPA consultation, the NPS assumes that the State Historic Preservation Officer of California is the lead SHPO.

As stated above, actions having the potential to effect historic properties from the proposed project to restore California Condors are expected to be limited to locations in Redwood National Park on lands administered by the NPS.

However because the proposed action also includes administrative decisions by the USFWS that may include areas outside Redwood National Park, including portions of northwest California, Oregon, and northwest Nevada, the SHPOs of all of these states are respectfully being consulted to concur with this proposed approach to 36 CFR 800. The states of Idaho and Washington are no longer being considered in this process.

The SHPOs of California, Oregon and Nevada have not yet responded to our initiation of the Section 106 NHPA process for this project submitted in January 13, 2017.

Area of Potential Effect

The NPS, USFWS and Yurok Tribe are seeking your input into defining the Area of Potential Effect for the proposed undertaking (Figures 1, 3, 4, and 5). The Area of Potential Effect for the proposed undertaking to restore California Condors to the Pacific Northwest, considers the potential for direct, indirect, visual and auditory effects to historic properties from the proposed action, which will be the undertaking. The APE includes 1,511 acres at three different sites in Redwood National Park. These include: 1. The proposed release sites at Airstrip and Counts Hill Prairies (545 acres) (Figure 3); 2. Administrative infrastructure alternative site at the former South Operations Center (18 acres) (Figure 4); 3. Schoolhouse Peak Fire-Lookout Tower (948 acres) (Figure 5).

Direct Effects to Historic Properties

Direct effects to historic properties could occur from ground disturbance needed to construct infrastructure such as release pens, utilities, water related features, and security fences associated with the Condor restoration program. Ground disturbance has the potential to disturb historic or precontact era sites, districts, features or objects located within the APE. These could include the Bald Hills Archeological District, which is listed in the National Register of Historic Places; the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; and the Klamath to Korb Road (aka the K&K Road), which is known to be over 50 years old, but has not yet been evaluated for listing in the National Register of Historic Places.

Other direct effects to historic properties could include damage or modifications to historic fabric, finishes, landscape features, or settings from the placement of release pens and other associated infrastructure. Direct effects may also be from the adaptive reuse of existing historic-era buildings, structures or features needed to support the administration and management of a Condor restoration program at Redwood National Park. Such effects may include use of the former Redwood National Park South Operations Center in Orick (Figure 4) for offices, equipment or storage. In addition, a nearby fire-lookout tower sits on a peak near the release site (Figure 5), and will likely be modified to deter Condors from perching on the tower and its associated antennas and repeaters.

Other direct effects to historic properties may need to be considered, as project planning continues.

Indirect, Visual, and Auditory Effects to Historic Properties

Indirect effects to historic properties from implementation of the Condor restoration program could include downhill erosion created from the long-term use and maintenance of infrastructure such as fences, water related features, and roads. Erosion could adversely affect archeological sites, features, or deposits.

Visual effects could also be expected to historic properties depending on the orientation and placement of infrastructure, which may be seen from within or adjacent to historic districts such as the Lyons Ranches

Rural Historic District, Bald Hills Archeological District, Bald Hills Ethnographic Landscape, and Yurok Tribal Landscape.

Auditory effects could occur from the presence of personnel and the use of equipment, such as generators, or use of vehicles in the vicinity of historic properties, such as historic or tribal cultural landscapes, and traditional plant gathering locations.

Other indirect, visual and auditory effects to historic properties may need to be considered, as project planning continues.

Identification of Historic Properties

As defined, historic properties currently known within the APE for the proposed Condor restoration program undertaking include the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; is in the vicinity of the Bald Hills Archeological District, which is listed in the National Register of Historic Places; and is located near other historic period resources such as the Klamath to Korbel Road.

Another facility under consideration for administrative use includes the former Redwood National Park South Operations Center in Orick, California that is historic in age, but would require further evaluation to determine if it meets the criteria for listing in the National Register of Historic Places. The NPS has recently submitted documentation to the California SHPO for an unrelated project that this facility is not eligible for inclusion in the National Register of Historic Places. The NPS is awaiting concurrence from the California SHPO on this determination.

The fire-lookout tower on Schoolhouse Peak will likely need to be modified. It was originally built in about 1941, but was extensively modified in 1976. The NPS determined that the fire-lookout was ineligible for listing in the National Register of Historic Places in 1999 with consensus from the California SHPO.

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Further steps to identify historic properties within the APE, will include but not be limited to the following:

- conducting literature reviews and background research of Redwood National Park files, local libraries and institutions; reviewing historical maps and air photos; and gathering remote sensing information from data sources such as LiDAR.
- conducting archeological surveys;
- conducting historical landscape and visual assessments;
- preparation of reports to document results and findings of identification efforts; and
- continuing to conduct Section 106 NHPA consultations with the public, federally recognized Tribes and non-federally recognized individuals and groups.

Tribal Consultation

Approximately 70 federally recognized Tribes across Northern California, Oregon, and northwest Nevada, have been contacted via letter correspondences to Tribal Heritage Preservations Officers. Follow-up phone calls and emails have been made to THPOs and/or federally recognized Tribes in Humboldt and Del Norte Counties California. These correspondences specifically addressed consultations for Section 106 NHPA

The NPS and USFWS also initiated separate government-to-government consultations under Executive Order 13175 with these federally recognized Tribes through correspondences dated December 16, 2016, which invited Tribes to request face-to-face meetings with NPS and USFWS officials.

Currently the NPS is also seeking comments on the project from approximately 70 additional non-federally recognized Tribes and individuals.

Public Scoping

Public comment on the scope of the project took place January 17 to February 28, 2017. The NPS, USFWS, and Yurok Tribe held a series of public scoping meetings to help develop this possible range of alternatives to be considered. The meetings were held January 23 through the 26, 2017 in Eureka, CA; Sacramento, CA; Klamath, CA; Medford, OR; and Portland, OR. Approximately 3,574 comments have been received to date.

Conclusion

The NPS, USFWS and Yurok Tribe seek your comments that the APE has been adequately identified for the purposes of this project to restore California Condors to Redwood National Park. If you have any comments or questions regarding this project, please contact:

Karin Grantham, Chief of Resource Management and Science
Redwood National Park
PO Box 7, Orick, CA 95555
(707) 465-7710
karin_grantham@nps.gov

We look forward to hearing your concerns and comments.

Sincerely,

David M. Roemer,
Acting Superintendent

Encl. (1) Figures 1-5



United States Department of the Interior

Redwood National Park

1111 Second Street
Crescent City, California 95531

H4217 (Condors)

September 8, 2017

Ms. Vi Riley Cultural Resources Coordinator
Alturas Indian Rancheria
P.O. Box 340
Alturas, California 96101

Re: California Condor Protection and Restoration Plan, Redwood National Park

Dear Ms. Riley:

As stated in our January 13, 2017 correspondence, the National Park Service (NPS), United States Fish and Wildlife (USFWS) and the Yurok Tribe are proposing to restore California Condors to the Pacific Northwest by establishing a release facility in the Bald Hills region of Redwood National Park, and support facilities in Orick, Humboldt County, California (Figure 1).

The purpose of this letter is to continue our consultations with your office on the potential effects of this federal undertaking on historic properties that are eligible for or listed in the National Register of Historic Places in accordance with the National Historic Preservation Act (NHPA) (Public Law 89-665; 54 U.S.C. 470 et seq. as amended) and its implementing regulations 36 CFR 800. Specifically, this correspondence seeks to:

- Clarify agency roles and responsibilities in carrying out the proposed project.
- Seek your concurrence that the NPS and the consulting parties have adequately defined the Area of Potential Effect (APE) for this undertaking that includes locations for the release facility, for support facilities, as well as modifications to buildings near the release site (Figures 1-5);
- Update you on the status of public and Tribal consultations.
- Inform you that further consultation with your office will occur, when historic properties within the APE are identified, and effects to historic properties from implementation of the California Condor restoration program at Redwood National Park are assessed.

Agency Roles and Responsibilities

NPS

For the purposes of complying with Section 106 of the NHPA and its implementing regulations 36 CFR 800.2, the NPS is the lead agency for this undertaking to restore California Condors to the Pacific Northwest. All infrastructure development associated with the project would occur within the boundary of Redwood National Park on lands administered by the NPS.

USFWS

The USFWS is a consulting party to this Section 106 NHPA process. As part of this undertaking the USFWS would issue Endangered Species Act permits to the NPS and the Yurok Tribe to carryout activities associated with handling and caring for the Condors as part of the project.

In addition, the USFWS could promulgate a proposed rule to designate a Non-essential Experimental Population (NEP) for the Condor under Section 10(j) of the Endangered Species Act, which would include the identification of the geographic scope of such a population (the NEP area). Designating a reintroduced population as a nonessential experimental population allows the USFWS to customize the regulatory protections for that population under the Endangered Species Act for the joint purposes of minimizing impacts to stakeholders while ensuring that the reintroduced population will contribute to the conservation of the species.

The USFWS has provided a preliminary delineation of a possible NEP area in Figure 2. Alternatively, the California Condors released from Redwood National Park could receive the full protections of the Endangered Species Act. Public and Tribal consultations are being conducted to determine whether the USFWS will move forward with proposing a NEP, and what the scope of such designation should include.

Both the issuance of the permits and promulgation of regulations could apply across state lines in California, Oregon and Nevada, but are strictly administrative actions. No infrastructure developments, or actions that have the potential to affect historic properties are part of the USFWS proposed actions.

Yurok Tribe

The Yurok Tribe is a consulting party to this Section 106 NHPA Process. If the project occurs, the Yurok Tribe would be required to apply for recovery permits issued by USFWS under the Endangered Species Act. The Yurok Tribal Council has passed a resolution stating that recommendations from a formal National Environmental Protection Act process will satisfy a pre-decisional environmental assessment requirement for the Tribe to support further Condor reintroduction actions.

Lead SHPO

For the purposes of this Section 106 NHPA consultation, the NPS assumes that the State Historic Preservation Officer of California is the lead SHPO.

As stated above, actions having the potential to effect historic properties from the proposed project to restore California Condors are expected to be limited to locations in Redwood National Park on lands administered by the NPS.

However because the proposed action also includes administrative decisions by the USFWS that may include areas outside Redwood National Park, including portions of northwest California, Oregon, and northwest Nevada, the SHPOs of all of these states are respectfully being consulted to concur with this proposed approach to 36 CFR 800. The states of Idaho and Washington are no longer being considered in this process.

The SHPOs of California, Oregon and Nevada have not yet responded to our initiation of the Section 106 NHPA process for this project submitted in January 13, 2017.

Area of Potential Effect

The NPS, USFWS and Yurok Tribe are seeking your input into defining the Area of Potential Effect for the proposed undertaking (Figures 1, 3, 4, and 5). The Area of Potential Effect for the proposed undertaking to restore California Condors to the Pacific Northwest, considers the potential for direct, indirect, visual and auditory effects to historic properties from the proposed action, which will be the undertaking. The APE includes 1,511 acres at three different sites in Redwood National Park. These include: 1. The proposed release sites at Airstrip and Counts Hill Prairies (545 acres) (Figure 3); 2. Administrative infrastructure alternative site at the former South Operations Center (18 acres) (Figure 4); 3. Schoolhouse Peak Fire-Lookout Tower (948 acres) (Figure 5).

Direct Effects to Historic Properties

Direct effects to historic properties could occur from ground disturbance needed to construct infrastructure such as release pens, utilities, water related features, and security fences associated with the Condor restoration program. Ground disturbance has the potential to disturb historic or precontact era sites, districts, features or objects located within the APE. These could include the Bald Hills Archeological District, which is listed in the National Register of Historic Places; the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; and the Klamath to Korb Road (aka the K&K Road), which is known to be over 50 years old, but has not yet been evaluated for listing in the National Register of Historic Places.

Other direct effects to historic properties could include damage or modifications to historic fabric, finishes, landscape features, or settings from the placement of release pens and other associated infrastructure. Direct effects may also be from the adaptive reuse of existing historic-era buildings, structures or features needed to support the administration and management of a Condor restoration program at Redwood National Park. Such effects may include the use of the former Redwood National Park South Operations Center in Orick (Figure 4) for offices, equipment or storage. In addition, a nearby fire-lookout tower sits on a peak near the release site (Figure 5), and will likely be modified to deter Condors from perching on the tower and its associated antennas and repeaters.

Other direct effects to historic properties may need to be considered, as project planning continues.

Indirect, Visual, and Auditory Effects to Historic Properties

Indirect effects to historic properties from implementation of the Condor restoration program could include downhill erosion created from the long-term use and maintenance of infrastructure such as fences, water related features, and roads. Erosion could adversely affect archeological sites, features, or deposits.

Visual effects could also be expected to historic properties depending on the orientation and placement of infrastructure, which may be seen from within or adjacent to historic districts such as the Lyons Ranches Rural Historic District, Bald Hills Archeological District, Bald Hills Ethnographic Landscape, and Yurok Tribal Landscape.

Auditory effects could occur from the presence of personnel and the use of equipment, such as generators, or use of vehicles in the vicinity of historic properties, such as historic or tribal cultural landscapes, and traditional plant gathering locations.

Other indirect, visual and auditory effects to historic properties may need to be considered, as project planning continues.

Identification of Historic Properties

As defined, historic properties currently known within the APE for the proposed Condor restoration program undertaking include the Lyons Ranches Rural Historic District, which has been determined eligible for listing in the National Register of Historic Places; is in the vicinity of the Bald Hills Archeological District, which is listed in the National Register of Historic Places; and is located near other historic period resources such as the Klamath to Korbel Road.

Another facility under consideration for administrative use includes the former Redwood National Park South Operations Center in Orick, California that is historic in age, but would require further evaluation to determine if it meets the criteria for listing in the National Register of Historic Places. The NPS has recently submitted documentation to the California SHPO for an unrelated project that this facility is not eligible for inclusion in the National Register of Historic Places. The NPS is awaiting concurrence from the California SHPO on this determination.

The fire-lookout tower on Schoolhouse Peak will likely need to be modified. It was originally built in about 1941, but was extensively modified in 1976. The NPS determined that the fire-lookout was ineligible for listing in the National Register of Historic Places in 1999 with consensus from the California SHPO.

The California Condor plays a significant spiritual and cultural role to the Yurok Tribe, and may also be important to other neighboring Tribes such as Hupa, Tolowa, and Karuk. The views to/from the Yurok Tribal Cultural Landscape, and Chilula ancestral territory will be considered. Tribal activities within respective cultural landscapes will continue parallel and complementary to Condor reintroduction actions. Additional issues will be identified through consultation.

Further steps to identify historic properties within the APE, will include but not be limited to the following:

- conducting literature reviews and background research of Redwood National Park files, local libraries and institutions; reviewing historical maps and air photos; and gathering remote sensing information from data sources such as LiDAR.
- conducting archeological surveys;
- conducting historical landscape and visual assessments;
- preparation of reports to document results and findings of identification efforts; and
- continuing to conduct Section 106 NHPA consultations with the public, federally recognized Tribes and non-federally recognized individuals and groups.

Tribal Consultation

Approximately 70 federally recognized Tribes across Northern California, Oregon, and northwest Nevada, have been contacted via letter correspondences to Tribal Heritage Preservations Officers. Follow-up phone calls and emails have been made to THPOs and/or federally recognized Tribes in Humboldt and Del Norte Counties California. These correspondences specifically addressed consultations for Section 106 NHPA

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Currently the NPS is also seeking comments on the project from approximately 70 additional non-federally recognized Tribes and individuals.

The following is a brief summary of Tribal consultation activity and responses to date:

- California
 - Blue Lake Rancheria THPO. No comments. Project outside Tribe's area of concern
 - Bear River Band Rohnerville Rancheria, THPO. Direct phone communication by NPS official with THPO.
 - Elk Valley Rancheria. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Hoopa Valley Tribe. A face-to-face government-to-government consultation meeting was held on April 7, 2017. Further consultations are needed.
 - Karuk Tribe, THPO. Direct phone communication with THPO from NPS official.
 - Paskenta Band of Nomlaki Indians. Request to update Tribal Chair contact information.
 - Sherwood Valley Rancheria, THPO. No need for government-to-government consultation, but requested additional information about Condors and Condor biology for the interest of Tribal members. Sherwood Valley has stories of Condors in their area. The THPO was referred to the project website which was developed for the public and contains information on the project and Condor biology. She was also provided contact information for Yurok Tribe's Condor Biologist for specific questions related to Condor biology.
 - Stewart's Point Rancheria, Kashia Band of Pomo Indians THPO. No comments or concerns, project outside aboriginal territory.
 - Tolowa Dee-ni' Nation. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Trinidad Rancheria. Requested a face-to-face government-to-government consultation meeting. Meeting to be scheduled.
 - Wiyot Tribe, THPO. Direct phone communication with THPO from NPS official.
 - Yocha Dehe THPO. Declined to comment, project outside aboriginal territory.
- Oregon
 - Confederated Tribes of the Colville Reservation, THPO. No questions, concerns or comments, but mentioned the historical presence of Condors along the Columbia River and The Dalles.
 - Coquille THPO: Defers to local Tribes surrounding the park, however they had questions regarding Section 10(j) of the Endangered Species Act. A conference call with Tribal and NPS officials was held on February 8, 2017 to discuss the project and any concerns. A Follow-up email was also sent to Tribal officials on March 23, 2017.
- Other
 - Modoc Tribe of Oklahoma. A face-to-face meeting was held on May 11, 2017 in Yreka California with NPS, USFWS and a Tribe official. No further comments have been received to date.

Public Scoping

Public comment on the scope of the project took place January 17 to February 28, 2017. The NPS, USFWS, and Yurok Tribe held a series of public scoping meetings to help develop this possible range of alternatives to be considered. The meetings were held January 23 through the 26, 2017 in Eureka, CA; Sacramento, CA; Klamath, CA; Medford, OR; and Portland, OR. Approximately 3,574 comments have been received to date.

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Redwood National Park
PO Box 7, Orick, CA 95555
(707) 465-7710
karin_grantham@nps.gov

We look forward to hearing your concerns and comments.

Sincerely,

David M. Roemer,
Acting Superintendent

Encl. (1) Figures 1-5



Preserving America's Heritage

November 7, 2017

Karin Anderson Grantham
Joint Chief Resource Management & Science
Redwood National Park
P.O. Box 7
Orick, CA 95555

Ref: *Proposed California Condors Restoration Program at Redwood National Park
Humboldt County, California*

Dear Ms. Grantham:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the California State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

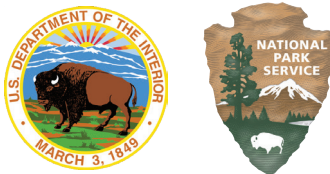
Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Mr. Christopher Wilson at 202-517-0229 or via e-mail at cwilson@achp.gov.

Sincerely,

Artisha Thompson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

REDW 167/173704

August 2020

