

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



**Valles Caldera National Preserve
NPS Intermountain Region**

Eagle Take Within Valles Caldera National Preserve

Environmental Assessment

October 2023

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CHAPTER 1: PURPOSE, NEED, AND ISSUES ANALYZED

Background

Valles Caldera was first established in 2000 as a unit of the National Forest System and managed by the Valles Caldera Trust, a wholly owned government corporation overseen by a board of trustees appointed by the President of the United States. On December 19, 2014, Valles Caldera National Preserve (the park) was designated as a unit of the National Park System. After a brief transition period, the National Park Service (NPS) assumed management of the park on October 1, 2015.

Valles Caldera is located in the center and at the top of the Jemez Mountains in north-central New Mexico. The 88,900-acre park encompasses almost all of the volcanic caldera within a single almost square area mostly surrounded by the Santa Fe National Forest. The Pueblo of Santa Clara shares a boundary with the park along the northeast rim of the caldera. Bandelier National Monument is an adjacent neighbor to the southeast, and one of the three Manhattan Project National Historical Park sites is nearby in Los Alamos. The park protects, preserves, and restores ecosystems and cultural landscapes within an outstanding example of a volcanic caldera for the purpose of education, scientific research, public enjoyment and use, and cultural continuity.

Valles Caldera is of spiritual and ceremonial importance to numerous Native American Tribes and Pueblos in the greater Southwest region. These cultural connections are both contemporary and of great antiquity, and the National Park Service respectfully seeks to uphold the values and prioritize the voices of the Tribes and Pueblos for whom this special place continues to be part of their practices, beliefs, identity, and history.

For thousands of years, Native American peoples have used the caldera for hunting all sizes of game, small mammals, and waterfowl; fishing; collecting an abundance of seeds, nuts, and berries; and gathering various plants for medicine and ceremonies. Throughout prehistory and continuing today, this landscape has supported hunting and gathering to supplement agricultural subsistence. Numerous American Indian tribes and pueblos in the region have deep historic and cultural connections to the caldera that are expressed today through ceremonial activities, rich oral histories, and sacred traditions.

In November of 2022, the Pueblo of Jemez obtained a permit from the U.S. Fish and Wildlife Service (USFWS) to take multiple bald and golden eagles in a large area of collection encompassing Santa Fe, Sandoval, Rio Arriba, and San Miguel counties, New Mexico. The USFWS permit stipulates that the “permit does not authorize [the permittee] to conduct activities on lands outside the Pueblo of Jemez Reservation, including on Federal, State or other public or private property without additional prior written permits or permission from the landowner.” The Eagle Society of the Pueblo of Jemez have requested permission from the NPS to take a bald or golden eagle during traditional cultural ceremony activity that is proposed to occur between October 13 and November 12, 2023.

The NPS has already granted a special use permit to the Pueblo of Jemez for the purpose of ceremonial use within the park. The permit allows for exclusive ceremonial use of the permitted area in accordance with 36 C.F.R. § 1.5 and 16 USC 698v-11(b)(11)(B)(ii) from 6:00 am on October 13, 2023 through 6:00 pm on November 12, 2023. The permit includes numerous stipulations including authorization to utilize water from San Antonio Creek, use of a propane grill for cooking, and gathering of plants. It does not, however, authorize the take of eagles (NPS 2023).



Figure 1: Valles Caldera National Preserve

Purpose and Need for Taking Action

The purpose of taking action is to consider authorizing the Eagle Society of the Pueblo of Jemez to take eagles within Valles Caldera National Preserve, in compliance with the terms of a permit issued by the U.S. Fish and Wildlife Service. Action is needed at this time to respond to the pending Eagle Society of the Pueblo of Jemez request to take eagles within the park.

Issues Analyzed in this Environmental Assessment

Issues related to golden and bald eagles and ethnographic resources are analyzed in this environmental assessment.

Issues Considered but Dismissed from Detailed Analysis

Issues Related to Access and Use of the Park by the Eagle Society of the Pueblo of Jemez. The Pueblo of Jemez has already been granted a special use permit that addresses access and use of the park for traditional religious/cultural activity. The permit addresses, among other things, exclusive use of a certain area of the park, method and location of access, camping, use of fire, use of water, and trash disposal. The scope of this EA is to determine whether to allow the Eagle Society of the Pueblo of Jemez to take eagles

while in the park under the existing permit. Issues related to access and use of the park are outside the scope of this EA and have therefore been dismissed from detailed analysis.

Other Wildlife. The dynamic relationship between eagles and prey has impacts on other wildlife species in the park. Bald eagles primarily feed on fish and aquatic prey, but may also feed on other small mammals, waterfowl, and carrion (Johnson 2007). Golden eagles prey on white-tailed and black-tailed prairie dogs, jackrabbits and other small mammals (USFWS 2016a). In the park, bald eagles predominately predate on fish and carcasses from hunting, while golden eagles often feed on the park's robust prairie dog population. Under all alternatives analyzed, there could be small changes to prey populations depending on the number and species of eagles removed. These changes would likely result in minimal short-term impacts that may not be noticeable because the regional population of bald and golden eagles would remain stable regardless of the alternative selected and eagles would continue to use the park in the future. Therefore, issues related to other wildlife have been dismissed from detailed analysis.

Visitor Use and Experience. Visitor use and experience can be adversely impacted by actions that would reduce opportunities for visitor enjoyment. Although viewing eagles positively contributes to an aspect of visitor experience, it constitutes just one of the ways in which visitors interpret and experience the park itself. The park offers opportunities to explore the unique geology, view wildlife, and learn about the rich human history of the site. Visitor experience at the park is derived from this wide array of available activities, with viewing of eagles in particular representing a very small portion of the overall visitor experience. It can be presumed that particular visitors' anticipation of seeing an eagle is an aspect of visitor experience within the existing landscape aesthetic. If no action is taken, future visitors to the park could have different experiences, both positive and negative, in the presence of typical fluctuating eagle population numbers. However, such experiences would not noticeably detract from the wider array of possible visitor experiences at the park.

Each visitor may derive symbolic meaning from the presence or absence of eagles at the park. However, these are individual value-based perceptions. While the National Park Service is aware of the symbolic meaning to visitors from the presence of eagles, its management of eagles is based on a responsibility to preservation and the park's purposes.

Any impacts to visitor experience from any of the alternatives would be likely be small and would therefore not result in measurable changes to the quality or quantity of available opportunities for visitors to experience the park.

CHAPTER 2: ALTERNATIVES

Alternative 1: No Action

Under the no-action alternative, the park would not authorize the Eagle Society of the Pueblo of Jemez to take eagles within the park.

Alternative 2: Take of Up to Four Bald and/or Golden Eagles in Compliance with USFWS Take Permit #MB72632A

Under alternative 2, the NPS would authorize the Eagle Society of the Pueblo of Jemez to take up to four (4) eagles (golden eagles, bald eagles, or a combination of both) within the park, in compliance with the terms of U.S. Fish and Wildlife Service permit # MB72632A.

The USFWS permit allows take of up to 8 bald and/or golden eagles in an area encompassing Santa Fe, Sandoval, Rio Arriba, and San Miguel counties, New Mexico, and contains the following restrictions:

*“Though take of either bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*) is authorized, the **total combined take in the tribe’s area of collection will not exceed eight (8) individual eagles**, as follows: (1) outside the boundaries of the Jemez Reservation, bald eagle take is limited to no more than four individuals; (2) take of bald eagles will be restricted to the species’ local migration and overwintering period of 1 November-28 February; and (3) golden eagles can be taken only during 16 August-28 February to reduce chances that local adult golden eagles are taken while nesting; their breeding season begins with courtship during mid-winter” (USFWS 2023b).*

As defined under the Bald and Golden Eagle Act, “take” means to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb” (50 CFR § 22.6). This environmental assessment uses the word ‘take’ to enumerate the quantity of eagles removed, either under a permit or by unpermitted human actions.

Take of golden eagles would be authorized during the time period specified in the permit that has already been issued to the Pueblo of Jemez for access to the park for ceremonial use of the northwestern corner of the park (October 13 to November 12, 2023). Take of bald eagles would occur between November 1 and November 12, 2023. During those time periods, the Eagle Society of the Pueblo of Jemez could attempt to capture and take up to four eagles utilizing traditional methods during a religious ceremony.

Alternative 3 (Proposed Action): Take of Up to One Bald or Golden Eagle in Compliance with USFWS Take Permit #MB72632A

Under the proposed action, the NPS would authorize the Eagle Society of the Pueblo of Jemez to take one (1) adult bald eagle or one (1) golden eagle within the park in compliance with the terms of U.S. Fish and Wildlife Service permit # MB72632A. A golden eagle could be taken during the time period specified in the permit that has already been issued to the Pueblo of Jemez for access to the park for ceremonial use of the northwestern corner of the park (October 13 to November 12, 2023). A bald eagle could be taken between November 1 and November 12, 2023 (bald eagles may only be taken under the USFWS permit between November 1 and February 28). During those time periods, the Eagle Society of the Pueblo of Jemez could attempt to capture and take up to one eagle utilizing traditional methods during a religious ceremony. As with Alternative 2, “take” under the Bald and Golden Eagle Act means, “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb” (50 CFR § 22.6).

Alternative Considered but Dismissed from Detailed Analysis

Although the NPS initially considered evaluating an alternative that would allow the full number of eagles authorized under the USFWS Take Permit #MB72632A to be taken in the park, that alternative was ultimately considered but dismissed from detailed analysis. The USFWS permit authorized take of up to eight live eagles from a large four-county area (Santa Fe, Sandoval, Rio Arriba, or San Miguel Counties) of New Mexico, depicted in yellow in Figure 2. The four-county area encompasses traditional lands of the Jemez, part of the Santa Fe National Forest, Valles Caldera National Preserve, and the entire Jemez Reservation. The park can be seen in blue imposed on the collection area as a much smaller portion. The NPS felt that allowing the full number of eagles authorized under the USFWS permit to be taken within park boundaries would concentrate potential impacts to eagles utilizing park habitat and would result in too great of an environmental impact.

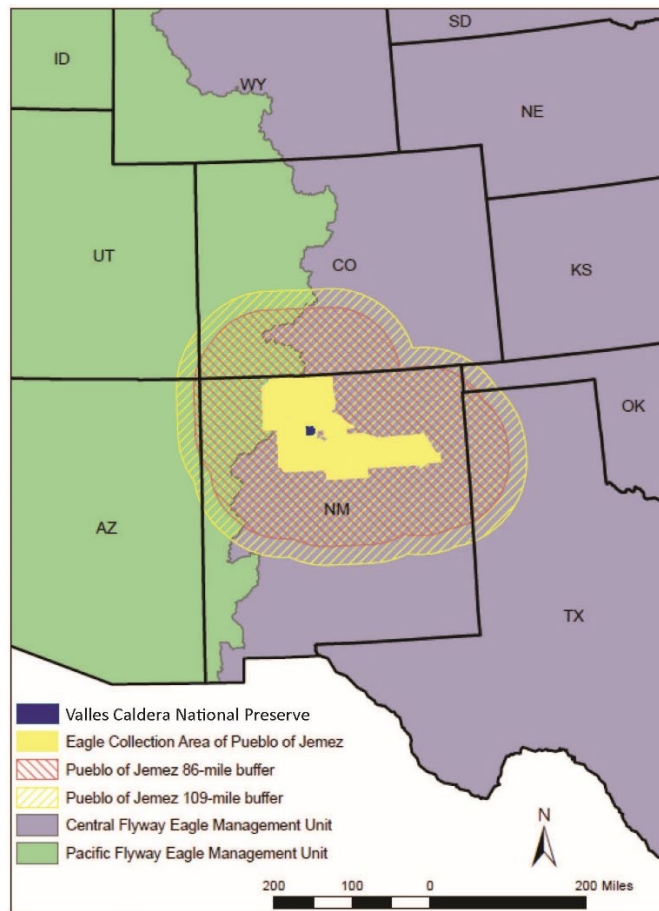


Figure 2: Eagle Collection Area Authorized under USFWS Take Permit (USFWS 2023a) with Location of Valles Caldera National Preserve¹

¹ The original version of Figure 2 was included in the Environmental Action Statement for the Reissuance of a Permit to the Pueblo of Jemez to take Bald Eagles and Golden Eagles for Religious Purposes during 2022-2023 (USFWS 2023b). The image of the park was added to provide context to show the size of the park within the total area considered by USFWS.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Project Area

Eagle take under action alternatives would occur within the northwest corner of the park, but given the eagles' flight and large territories, this analysis chapter considers the project area to be the entire park.

Valles Caldera National Preserve is in the Jemez Mountains of north-central New Mexico, approximately 124 km (77 mi) northwest of Albuquerque, New Mexico, and 48 km (30 mi) west of Los Alamos, New Mexico. The park encompasses 35,977 ha (88,900 ac) and is surrounded by the U.S. Forest Service's (USFS) Santa Fe National Forest (NF) along its northern, western, southern, and eastern boundaries and adjoins the Pueblo of Santa Clara along its northeastern boundary and Bandelier National Monument along its southeastern boundary (NPS NRCA 2022). With elevations ranging from 2,438 m (8,000 ft) to 3,430 m (11,254 ft), the park in its entirety is a high elevation ecosystem that includes wetlands and wet meadows, montane grasslands, woodlands, and coniferous forests, all of which contrast with the lower elevations and more arid regions of New Mexico (NPS NRCA 2022).

In general, the park supports a great diversity of animals, plants, and fungi. Species inventoried during 2001-2007 include 48 species of mammals, 113 breeding birds, 6 reptiles, 3 amphibians, 6 fish, 525 plants, 28 lichens, 11 algae and 5 slime molds. Ongoing inventories of insects have resulted in hundreds of species identified, including 131 species of aquatic insects from streams and wetlands within the park. Valles Caldera National Preserve is a designated National Audubon Society Important Bird Area (NAS 2008).

Organization of This Chapter

This chapter is organized by impact topics, which represent specific resources. Under each impact topic, the "Affected Environment" is presented first and includes a description of each resource that has been carried forward for detailed analysis. The "Environmental Consequences" sections evaluate the potential direct, indirect, and cumulative impacts that could result from the implementation of each alternative.

Eagles

Affected Environment

Bald and golden eagles are protected under the Bald and Golden Eagle Act. Eagles are significant components of Valles Caldera National Preserve's predator assemblage, feeding on small mammals (golden eagles) and fish (bald eagles). Eagles also function as scavengers on large mammal carcasses (elk, deer) that are either killed by other predators (e.g., cougars) or by human hunters. Small mammal prey of golden eagles in the park include Gunnison's prairie dogs and mountain cottontail rabbits among others, while migrating bald eagles feed primarily along streams, taking brown and rainbow trout during the ice-free period of October – December. Thus, eagles are an important component of the park's biodiversity, trophic structure, and ecosystem functioning.

Bald and golden eagles constantly cross jurisdictional boundaries, including the park's boundary. Eagles move throughout the day and from day-to-day within and outside the park depending on food availability. An eagle that uses the park one year may not return to the park the next.

Bald Eagle (*Haliaeetus leucocephalus*). The park supports a small population of migratory bald eagles (up to 20) during the late fall/early winter (Johnson 2007). Over the past several years, the Cornell Lab of Ornithology eBird database records sightings of bald eagles in the park between October and January and

sporadically in May (eBird 2023). Sightings recorded typically of have been of an individual eagle, though up to three individuals have been recorded over winter months in the past 3 years (eBird 2023).

Wintering bald eagles begin to arrive in the park in October and leave when all streams have been frozen over and have become inaccessible for fish, usually by early January (although eagles may visit periodically all winter if snow/ice conditions permit). The location and abundance of wintering eagles is dependent on food and availability of appropriate roosting and foraging habitat and can change year to year. Concentrations occur around reservoirs and along rivers, with a scattering of birds in terrestrial habitat (Johnson 2003).

There are no large water bodies to provide breeding/foraging habitat within or near the park and the Jemez Mountains do not contain known breeding habitat. The main areas in which bald eagles are found are along the San Antonio Creek, although individuals can be observed during the day at numerous locations throughout the park. Most individuals seen away from water are feeding on elk carcasses because of hunting activities in the park. Bald eagles typically use trees near the creek as overnight roosts (Valles Caldera Trust 2014).

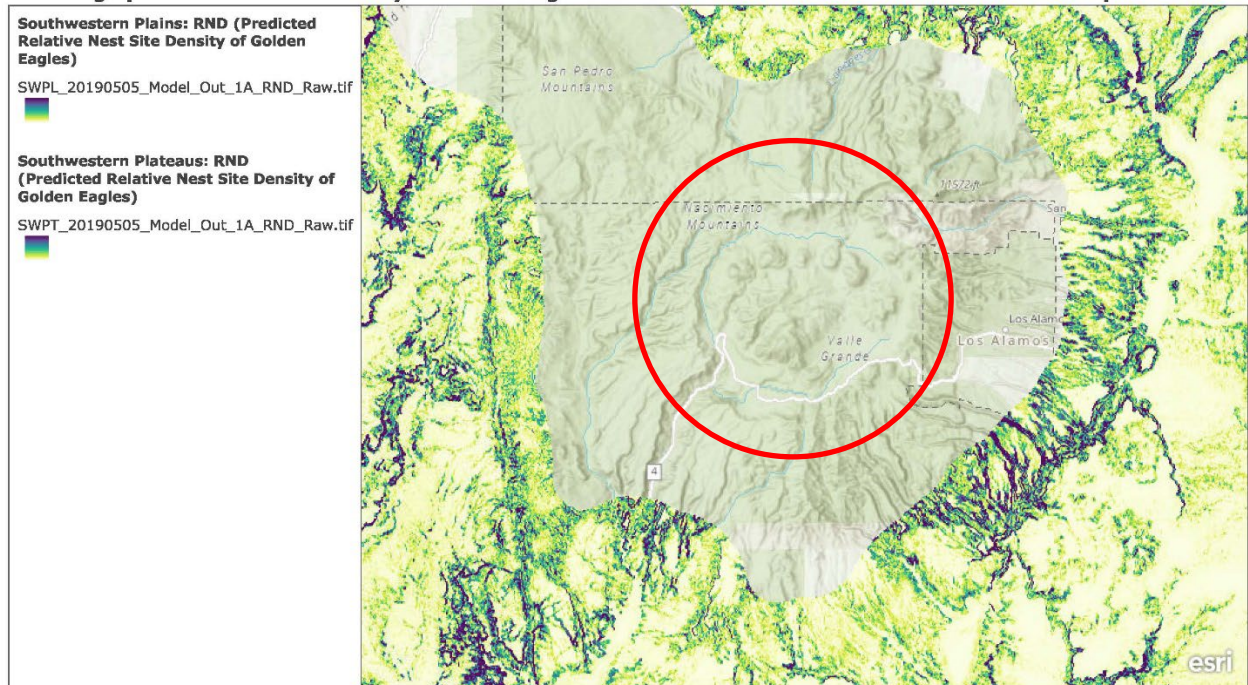
As noted in the Environmental Action Statement for the Reissuance of a Permit to the Pueblo of Jemez to take Bald Eagles and Golden Eagles for Religious Purposes during 2022-2023 (USFWS 2023b), bald eagles in Bird Conservation Region 16 (BCR 16; Southern Rockies/Colorado Plateau), which encompasses the park, are increasing substantially. These populations exhibited a 14.4% annual increase in trend during 2000-2019 (95% credible interval = 8.3-21.6). Across the U.S., bald eagles exhibited a 9.0% annual increase in trend during 2000-2019 (95% credible interval = 7.8-10.2). Some bald eagles that migrate through or overwinter in the tribe's area of collection may come from Canada and Alaska. Trend analysis based on Breeding Bird Survey data indicate significant population growth in these regions also (e.g., 1.0 and 2.4% annual increase in Alaska and Canada-wide during 2000-2019) (USFWS 2013, USFWS 2023b).

The bald eagle is listed as Threatened in the state of New Mexico. However, the state did not object to issuance of the USFWS take permit to the Pueblo of Jemez because take of bald eagles authorized by the permit is limited to the species' migration and overwintering periods (USFWS 2023b).

Golden Eagle (*Aquila chrysaetos*). Over the past several years, the Cornell Lab of Ornithology eBird database records sightings of golden eagles within the park between May and December (eBird 2023). Sightings recorded typically have been of one to two eagles during the breeding, rearing, and fledging seasons (April through August), though up to six individuals have been recorded in September over the past 3 years (eBird 2023). Multiple observations indicated eagles traveling in pairs. There may be one breeding pair of resident golden eagles in the vicinity of the park during spring and summer; however, it is unknown whether or not this resident pair overwinters on the park or on adjacent lands or migrates south in winter (NPS 2017).

The U.S. Fish and Wildlife Service has created breeding habitat models for golden eagles that are based on golden eagle nest records obtained from state, federal, tribal, and private entities. These models accounted for regional variability in habitat availability based on ecoregions (USFWS 2023c). Below is an image of the modeling for the spatial variation in density of golden eagle nest sites in the Southwestern Plains and Southwestern Plateaus ecoregions in the vicinity of the park. While the park is likely utilized by resident golden eagles, the modeling depicts a higher probability for golden eagle nest density outside the park in the nearby vicinity and a nest has not been observed within the park.

Modeling Spatial Variation in Density of Golden Eagle Nest Sites in the Western United States: Webmap



This webmap is for visual evaluation and comparison of predicted RND (Relative Nest Site Density) and AAF (Area-adjusted Frequency of Nest Sites) within modeled regions.

Esri, CGIAR, USGS | U.S. Fish and Wildlife Service, Western Golden Eagle Team (WGET) | New Mexico State University, Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

Figure3: U.S. Fish and Wildlife Service Modeling of Spatial Variation of Density in Golden Eagle Nest Sites within the Vicinity of Valles Caldera National Preserve.

In winter, a large number of migrant golden eagles arrive in the western U.S. from Canada and Alaska. During this time, resident adult eagles may move beyond their breeding-season ranges to seek additional food resources, and many juvenile and subadult golden eagles disperse further within their home region to winter ranges. These shifts in golden eagle distribution during winter are an important component of risk assessments and conservation planning, but have not been systematically described (USFWS 2023c).

Population estimates for golden eagles in the Jemez Mountains are unknown. In 2001, a general raptor survey of the park was conducted and golden eagles were frequently observed in summer and fall with 17 observations in six surveys between June and August (NPS 2017). As noted in the Environmental Action Statement for the Reissuance of a Permit to the Pueblo of Jemez to take Bald Eagles and Golden Eagles for Religious Purposes during 2022-2023 (USFWS 2023b), the total population size of golden eagles in the coterminous western U.S. in 2016 was 32,256. Size and trend of the late summer population of golden eagles in bird conservation region 16, which encompasses the area of collection of the Pueblo of Jemez, have been estimated via aerial survey conducted in 2003 and annually during 2006-2016 and indicate a stable population. Based on survey data, golden eagle populations across the western U.S. generally appear stable, though recent demographic modeling suggests a slow decline may be occurring (U.S. Fish and Wildlife Service 2016b). Based on data from the U.S. Geological Survey's Breeding Bird Survey (Sauer et al. 2019), golden eagles in bird conservation region 16 exhibited a 0.25% annual decrease in trend during 2000- 2019 (95% credible interval = -1.5-1.0) (USFWS 2023b).

Trends to both species. Ongoing environmental trends with the potential to affect bald and golden eagles are noted in the 2016 Programmatic Environmental Impact Statement for the Eagle Rule Revision. While some components noted, such as energy production and power lines, do not occur within the boundaries of the park, they would continue to affect the migratory bald and golden eagles that travel through the park and occupy larger habitats beyond the park's boundary. Overall, these combined factors have not negatively affected the potential for population growth in bald eagles, as evidenced by the trends reported by USFWS (2016b). However, cumulative factors may be contributing to possible ongoing or future declines of golden eagles. For golden eagles, the evidence suggests that current high levels of mortality are having a bigger impact on populations than other factors (USFWS, 2016b).

Environmental Consequences of Alternative1: No-Action

Under the no-action alternative, the park would not authorize the Eagle Society of the Pueblo of Jemez Reservation to take eagles within the park. Eagles would maintain their population size and behaviors, contributing to the structure and functioning of the park ecosystems. Ecosystem structure and functioning, with a full complement of top predators, would be unchanged and trophic interactions between eagles and their prey species would remain in a condition the same or similar to existing conditions.

Cumulative Impacts

Other past, present, and reasonably foreseeable future actions that have or will impact eagles include increased energy development and changes to land-uses. Impacts to eagles result from the potential for lead poisoning, electrocution, habitat modification/loss, energy development (especially wind energy), and disturbance caused by outdoor recreation. The extent to which these factors individually or cumulatively impact eagle populations is unknown (Dunk et al 2019).

As noted in the Environmental Action Statement for the Reissuance of a Permit to the Pueblo of Jemez to take Bald Eagles and Golden Eagles for Religious Purposes during 2022-2023 (USFWS 2023b), other Native American Tribes and Pueblos may also apply for permits to take golden eagles for religious purposes. Local area populations encompassing areas where other tribes may collect golden eagles overlap that of the Pueblo of Jemez golden eagle area of collection by up to about 25%. The extent of this overlap currently has no effect on the level of authorized take by Native Americans for any involved local area populations. This is likely to continue unless substantial changes occur such as (1) a markedly declining trend in the golden eagle population in the Eagle Management Units encompassing the Pueblo of Jemez area of collection, especially the Central Flyway, or (2) if numbers of golden eagles in the local area population were significantly diminished due in large part to take by Native Americans (USFWS 2023b).

If the NPS does not grant permission for the Eagle Society of the Pueblo of Jemez to take eagles within the park, the Pueblo of Jemez could still take up to 8 eagles under the terms of the USFWS permit on their reservation or other lands within the vicinity of the park. Given the transient nature and large territory of the eagles, should that occur, impacts to eagles within the park could be similar to or greater than impacts described under alternatives 2 and 3.

The no-action alternative would not contribute any additional adverse impacts to eagles.

Conclusion

Under the no-action alternative, there would be no authorized take of eagles within the park. The direct and indirect impacts of the no-action alternative would result in bald and golden eagles within the park remaining in a state similar to existing conditions. Adverse and beneficial cumulative effects would continue to occur.

Environmental Consequences of Alternative 2: Take of Up to Four Bald and/or Golden Eagles in Compliance with USFWS Take Permit #MB72632A

Under alternative 2, there is a possibility that up to four bald eagles or golden eagles, or a combination of up to four of both types of eagles would be captured and killed in the preserve during the Eagle Society of the Pueblo of Jemez's cultural ceremony. It is possible that one or more "resident" golden eagles observed in the vicinity of the park during spring and summer could be taken. While alternative 2 would allow for up to four eagles to be taken, the Eagle Society of the Pueblo of Jemez would utilize traditional methods to capture the eagles and their success would be influenced by numerous environmental factors beyond their control. Because their rate of success is variable and remains uncertain it is possible that no eagles would be taken.

Of note, ongoing take of eagles by Native Americans for religious purposes is considered part of the biological baseline level of take and is therefore not subject to local area population take limits (USFWS 2023b). Regardless, the U.S. Fish and Wildlife Service does analyze and consider the effects of this take on local area populations and has determined that take of up to 8 bald or golden eagles would result in negligible effects on eagle populations (USFWS 2023b). Two environmental assessments (USFWS 2009, 2013) have been presented to the public that conclude ongoing take of eagles by Native Americans for religious purposes has no discernable effect on the stability of eagle populations in question (USFWS 2023b).

As noted above, all bald eagles seen within the park are migratory. Autumn/winter surveys for bald eagles within the park have observed numbers in the range of 1 to 20 individuals present in a single day. Under alternative 2, if up to four bald eagles were captured and killed within the park, there could be the potential for short-term impacts to ecosystem biodiversity. While there could be potential for minimal changes to the seasonal trophic structure and functioning of the predator community within the park, it's not likely given the presence of other migratory eagles and other birds of prey (hawks and falcons). The habitat and potential food sources for other migratory bald eagles would remain. It is anticipated that migratory bald eagles would continue to occupy the park during this migration season and there would be little effect to the overall local area population. The taking of four bald eagles is below the threshold identified by USFWS to prevent decline of the current local area population. Bald eagle populations are known to be increasing by approximately 9% nationwide and possibly faster in this bird conservation area (USFWS 2023b). Therefore, long term impacts to future migratory populations in the park are not anticipated.

If the Eagle Society of the Pueblo of Jemez is successful in their take of golden eagles, the magnitude of impacts would differ depending on whether golden eagles taken are migratory or resident golden eagles observed in the vicinity of the park during spring and summer. Take of migratory golden eagles would result in similar impacts to take of bald eagles described above.

Golden eagles mate for life. If a resident golden eagle in the vicinity of the park that is part of a breeding pair were killed, the surviving bird would eventually find a new mate to breed with, but the time span during which this would happen is unknown and difficult to estimate (USFWS 2023a). The effect of losing a mate would adversely affect the surviving golden eagle. Any take would occur prior to the golden eagle breeding season and therefore there is potential for a surviving golden eagle to find a new mate ahead of the mid-winter breeding season; however, since the time span for an eagle to find a new mate is unknown and difficult to estimate, it is possible that the death of a resident golden eagle would result in reduced opportunity for nesting and new eaglets in the spring. It is understood that take of more than one resident golden eagle in the vicinity of the park could noticeably reduce a resident population of golden eagles around the park, at least temporarily. Within a stable regional population, USFWS documentation has

noted that there may be enough “floaters” in a local area population to fill the role of the missing eagle(s) and compensate for the loss (USFWS 2016a). Given the documented breeding in the area and the mapped available nesting habitat in areas surrounding the park, it is anticipated other golden eagles would take up residence in/around the park.

It should be noted that in issuing the permit, the U.S. Fish and Wildlife Service utilized a biological basis for defining a local area population of golden eagles to account for the resiliency of the local population. The threshold for take of golden eagles from the local area population encompassing the collection area for the permit (which includes the park) is 87 golden eagles (USFWS 2023b). Take of up to four golden eagles would be well below the identified threshold for the local area (USFWS 2023b).

Cumulative Impacts

Other past, present, and reasonably foreseeable future actions that have or will impact eagles would be the same as those described for the no-action alternative.

When the incremental impacts of alternative 2 are added to the impacts of other past, present, and reasonably foreseeable future actions, the overall cumulative impacts would be adverse. Because USFWS accounted for local area eagle population threats and for take by other tribes and found that impacts to eagle populations would be negligible, the adverse cumulative impacts to eagles would not be meaningful at a regional scale (BCR 16; Southern Rockies/Colorado Plateau). Noticeable impacts to resident golden eagles in the vicinity of the park could occur if one or more are taken. Those impacts would be driven primarily from the direct and indirect impacts of alternative 2.

Conclusion

In general, if the Eagle Society of the Pueblo of Jemez were successful in taking migratory bald and/or golden eagles under alternative 2, the effect on the overall local area eagle populations (bald and golden) would be minimal and within the identified thresholds established by the USFWS. However, if the Eagle Society of the Pueblo of Jemez were to take one or more resident golden eagles, impacts to the resident golden eagle population in the vicinity of the park would be noticeable, at least until such time that a new mate (or pair) is established.

Environmental Consequences of Alternative 3 (Proposed Action): Take of Up to One Bald or Golden Eagle in Compliance with USFWS Take Permit #MB72632A

Under alternative 3, there is a possibility that one eagle would be taken in the park during the Eagle Society of the Pueblo of Jemez’s cultural ceremony. The one eagle taken could be a migratory bald eagle, a migratory golden eagle, or a resident golden eagle observed in the vicinity of the park during spring and summer.

As with alternative 2, the Eagle Society of the Pueblo of Jemez would utilize traditional methods to capture the eagles and their success would be influenced by numerous environmental factors beyond their control. The rate of success is variable and remains uncertain. Take of one eagle, bald or golden, would be well below the threshold identified for local area populations of eagles by the USFWS when issuing the permit.

If the Eagle Society of the Pueblo of Jemez were successful in their take of one golden eagle, the magnitude of impacts would differ depending on whether the eagle taken was migratory or one of the resident golden eagles observed in the vicinity of the park during spring and summer. If the eagle taken is migratory, the impacts would be similar to those described under alternative 2 for migratory bald and golden eagles, but to a lesser degree. The removal of one migratory bald eagle from the park could impact a surviving mate temporarily (if they had one), but would not be expected to alter ecosystem diversity within the park or noticeably affect the function of the predator community. Available roosting habitat and food sources for other migratory eagles would remain and the overall local area population would not be measurably

affected.

If a resident golden eagle were taken, impacts would be similar to those described under alternative 2 with regard to take of one resident golden eagles. While the loss of one resident golden eagle would not eliminate a local pair, the effect of losing a mate would adversely affect the surviving golden eagle. It is presumed the surviving bird would eventually find a new mate and therefore the impact to the resident population would be temporary in nature. Within a stable regional population, USFWS documentation has noted that there may be enough “floaters” in a local area population to fill the role of the missing eagle and compensate for the loss (USFWS 2016a). Given the documented breeding in the area and the mapped available nesting habitat in areas surrounding the park, it is anticipated that a new mate for the surviving golden eagle would be found. As such, the impacts to resident golden eagles would be temporary in nature. The loss of one golden eagle is far below the threshold of 87 golden eagles identified by U.S. Fish and Wildlife Service for resiliency of the local area population and therefore impacts to golden eagles on a local population level would be negligible (USFWS 2023b).

Cumulative Impacts

Other past, present, and reasonably foreseeable future actions that have or will impact eagles would be the same as those described for the no-action alternative.

When the incremental impacts of alternative 3 are added to the impacts of other past, present, and reasonably foreseeable future actions, the overall cumulative impacts would be adverse. Because USFWS accounted for local area eagle population threats and for take by other tribes and found that impacts to eagle populations would be negligible, the adverse cumulative impacts to eagles would not be meaningful at a regional scale (BCR 16; Southern Rockies/Colorado Plateau). Noticeable impacts to resident golden eagles could occur if a resident golden eagle was taken. Those impacts would be driven primarily from the direct and indirect impacts of alternative 3.

Conclusion

In general, if the Eagle Society of the Pueblo of Jemez were successful in taking one bald or golden eagle under alternative 3, the effect on the overall local area eagle populations (bald or golden) would be minimal and well below the identified thresholds established by U.S. Fish and Wildlife Service. If the Eagle Society of the Pueblo of Jemez were to take a resident golden eagle, impacts to the resident golden eagle population in the vicinity of the park could be noticeable, at least until such time that a new mate was established. Overall alternative 3 would result in more adverse impacts to eagles than the no-action alternative, but fewer impacts to eagles than alternative 2.

Ethnographic Resources

Affected Environment

The rich assemblage of vegetation, wildlife, and volcanic resources of the Jemez Mountains has attracted diverse groups of people throughout human history, including present-day. For thousands of years American Indians have used Valles Caldera for hunting all sizes of game, small mammals and waterfowl, fishing, collecting an abundance of seeds, nuts, and berries, and gathering various plants for medicine and ceremonies. The signature resource for these indigenous peoples was obsidian. This high-quality volcanic glass gathered at extensive quarries in and near the caldera yielded valuable materials for spear points, arrowheads, knives, and scrapers. Obsidian artifacts from the last 12,000 years are abundant throughout the park and are found in ancient quarries, campsites, and even seasonally occupied small villages. Through scientific analysis, it is known that obsidian tools found across the United States were made from obsidian gathered at Valles Caldera, demonstrating the significance of this source and illustrating the extensive geographic ranges used by past hunter-gatherers, and perhaps indicating extensive trade of this high-value

toolstone. Throughout prehistory and continuing today, this landscape has supported hunting and gathering to supplement agricultural subsistence. Numerous Native American Tribes and Pueblos in the region have deep historic and cultural connections to the caldera that are expressed today through ceremonial activities, rich oral histories, and sacred traditions (NPS 2018). Several Indigenous peoples continue to make annual pilgrimages to a sacred shrine located atop Redondo Peak and have done so for generations prior to the privatization of the land in the mid-1800s (NPS 2022).

The enabling legislation of the park highlights access to traditional cultural and religious sites by members of Native American Tribes or Pueblos for traditional cultural and customary uses, and explicitly provides for protection of traditional cultural and religious sites through limitations on the use of volcanic domes and peaks. The following list includes potential traditionally associated tribes or pueblos (NPS 2018).

- | | |
|---|--|
| Apache Tribe of Oklahoma | Pueblo of Sandia, New Mexico |
| Cheyenne and Arapaho Tribes, Oklahoma | Pueblo of Santa Ana, New Mexico |
| Comanche Nation, Oklahoma | Pueblo of Santa Clara, New Mexico |
| Fort Sill Apache Tribe of Oklahoma | Pueblo of Taos, New Mexico |
| Hopi Tribe of Arizona | Pueblo of Tesuque, New Mexico |
| Jicarilla Apache Nation, New Mexico | Pueblo of Zia, New Mexico |
| Kewa Pueblo, New Mexico | San Carlos Apache Tribe of the San Carlos Reservation, Arizona |
| Kiowa Indian Tribe of Oklahoma | Southern Ute Indian Tribe of the Southern Ute Reservation, Colorado |
| Mescalero Apache Tribe of the Mescalero Reservation, New Mexico | Standing Rock Sioux Tribe of North and South Dakota |
| Navajo Nation, Arizona, New Mexico and Utah | Tonto Apache Tribe of Arizona |
| Ohkay Owingeh, New Mexico | Ute Indian Tribe of the Uintah and Ouray Reservation, Utah |
| Pawnee Nation of Oklahoma | Ute Mountain Tribe of the Ute Mountain Reservation, Colorado, New Mexico, and Utah |
| Pueblo of Acoma, New Mexico | White Mountain Apache Tribe of the Fort Apache Reservation, Arizona |
| Pueblo of Cochiti, New Mexico | Wichita and Affiliated Tribes |
| Pueblo of Isleta, New Mexico | Ysleta Del Sur Pueblo of Texas |
| Pueblo of Jemez, New Mexico | Zuni Tribe of the Zuni Reservation, New Mexico |
| Pueblo of Laguna, New Mexico | |
| Pueblo of Nambe, New Mexico | |
| Pueblo of Picuris, New Mexico | |
| Pueblo of Pojoaque, New Mexico | |
| Pueblo of San Felipe, New Mexico | |
| Pueblo of San Ildefonso, New Mexico | |

As noted in the 2016 Programmatic Environmental Impact Statement for the Eagle Rule Revision, “Bald eagles and golden eagles remain sacred to many American Indian tribes and tribal members and are central to the religious practices of some tribal cultures in North America and other localities throughout the species’ range.” Native American interests are unique and unlike any other interests due to the status of federally recognized tribes as governmental sovereigns, as well as the unique relationship between the U.S. government and each tribe. There exists a separate federal trust responsibility to tribes, which among many other things, safeguards indigenous religious practices, cultural practices, places, sites, and objects. Moreover, the Eagle Act specifically carves out an exception allowing the Service to authorize possession and take of bald and golden eagles for the “religious purposes of Indian Tribes” (16 USC 668a). Of note, a 1962 amendment to the Eagle Act authorized the take of eagles for religious purposes of Indian tribes as requested by the Secretary of the Interior, who was concerned about the effect prohibiting all take of golden eagles would have on Indian religious and cultural use (USFWS 2016a).

In some tribal cultures, the capture—and sometimes killing—of an eagle is an integral part of the traditional religious practice. In others, killing an eagle is expressly forbidden; eagle feathers for ceremonies must be obtained without harming an eagle or its ability to fly, sometimes by capturing eagles, securing fewer feathers than would disable the eagles from flight, and then releasing the eagles. Many other Native American traditional practitioners only use eagle parts and feathers salvaged as molted feathers or from eagle remains that are found (USFWS 2016a).

The U.S. Fish and Wildlife Service issues three types of permits related to Indian religious activities under 50 CFR § 22.22. The permit issued for use within the park is an Eagle American Indian Religious Take (EAIRT) Permit, which authorizes take of bald or golden eagles that is necessary for a traditional tribal religious ceremonial purpose that requires eagles to be taken from the wild (USFWS 2016a).

Some Native Americans must capture a bird the traditional way in the wild, as their ancestors did, to properly perform sacred ceremonies. For Native Americans, permits to take eagles from the wild (50 CFR 22.22) are currently limited to Tribes or Pueblos that can attest to a traditional religious need to take live, wild eagles for which the National Eagle Repository does not provide an adequate substitute. For example, as described above, the U.S. Fish and Wildlife Service has issued an annual permit to the Hopi every year since 1987 allowing the take of up to 40 golden eagles per year (USFWS 2016a).

The U.S. Fish and Wildlife Service has issued Eagle American Indian Religious Take permits to eight tribes in situations where the case was made sufficiently that wild-caught eagles were necessary to meet traditional religious and cultural needs. The table below lists all the eagle take permits the U.S. Fish and Wildlife Service had issued to tribes at the time the 2016 Programmatic Environmental Impact Statement for the Eagle Rule Revision was issued. A tribal official must apply on behalf of the tribe for an Eagle American Indian Religious Take Permit to take an eagle from the wild for religious use. Usually, permits provide specific limitations, such as times, dates, places, methods of takings, numbers and kinds of wildlife, location of activity, or circumscribed transactions. Each Service region coordinates and consults with the respective tribes and states on a case-by-case basis.

Tribal Entity	# of Bald Eagles	# of Golden Eagles
Pueblo of Zuni	12	15
Pueblo of Jemez	0	2
Iowa Tribe of Oklahoma	29	8
Comanche Nation of Oklahoma	8	9
Citizen Potawatomi Nation of Oklahoma	14	1
Navajo Nation	4	0
San Carlos Apache Tribe*	Unknown	Unknown
Fort Belknap**	Unknown	Unknown

Source: USFWS 2016a

Environmental Consequences of Alternative 1: No-Action

Under the no-action alternative, the park would not authorize the Eagle Society of the Pueblo of Jemez to take eagles within the park. Adverse impacts to cultural values of the Eagle Society of the Pueblo of Jemez would result from the lack of opportunity to conduct all elements of their ceremonial practice within the park, which includes the take of eagles. Although, the ceremonial practices could be held outside the park boundary within multiple counties in the state.

While the Pueblo of Jemez could still take eagles under their USFWS issued permit outside of NPS lands, there would be no direct or indirect impacts to other affiliated Tribes and Pueblos that may object to the taking of eagles within the park.

Cumulative Impacts

Other past, present, and reasonably foreseeable future actions that have or will impact ethnographic resources include closures of areas within the park related to tribal sacred sites and uses, and land restoration/stewardship activities taken by the park. Some pueblos and tribes may consider various NPS management actions, and actions taken by the Valles Caldera Trust to have adverse impacts to ethnographic resources because they believe those actions have altered the condition of various ethnographic resources. Past, ongoing, and future access granted to pueblos and tribes, and associated closures generally have and will result in beneficial impacts because they facilitate access to important areas of the park and eliminate the presence of park staff and visitors, if only for a limited time period.

The special use permit recently issued to the Pueblo of Jemez for the purpose of ceremonial use of the park from 6:00 am on October 13, 2023 through 6:00 pm on November 12, 2023 has resulted in beneficial impacts, specifically to the Eagle Society of the Pueblo of Jemez by providing exclusive access to an area of the park for ceremonial use.

Overall, other past, present, and reasonably foreseeable actions have resulted in both beneficial and adverse impacts to ethnographic resources. When the incremental impacts of the no-action alternative are added to the impacts of other past, present, and reasonably foreseeable future actions, the overall cumulative impacts would be both beneficial and adverse. The direct and indirect impacts of the no-action alternative would add meaningful adverse impacts to cultural values of the Eagle Society of the Pueblo of Jemez.

Conclusion

The no-action alternative would result in meaningful adverse impacts to cultural values of the Eagle Society of the Pueblo of Jemez because they would not be able to conduct ceremonial practices related to eagle take within the park.

Environmental Consequences of Alternative 2: Take of Up to Four Bald and/or Golden Eagles in Compliance with USFWS Take Permit #MB72632A

Under alternative 2, the NPS would authorize the Eagle Society of the Pueblo of Jemez to take up to four eagles (golden eagles, bald eagles, or a combination of both) within the park, in compliance with the terms of U.S. Fish and Wildlife Service permit # MB72632A. The opportunity to conduct all elements of their ceremonial practice within the park, whether successful in taking an eagle or not, would result in beneficial impacts to the Eagle Society of the Pueblo of Jemez. While the cultural values and practices of the Eagle Society of the Pueblo of Jemez are not fully known, presumably if they are successful in taking up to four eagles, additional benefits would result from ongoing and future ceremonial use of and significance of the physical eagle(s).

It should be noted that there is likely not consensus among the 38 associated Tribes and Pueblos of the park. As noted in the 2016 Programmatic Environmental Impact Statement for the Eagle Rule Revision, “for many tribes, the eagle’s cultural value is centered on the existence and local presence of wild eagles. Some tribes could experience adverse effects...because any permitting of existing and future incidental take of wild eagles is contrary to cultural and spiritual values” (USFWS 2016a). Take of up to four eagles (bald or golden) would likely adversely impact other Tribes and Pueblos affiliated with the park who value the existence of eagles on the park and do not support ceremonial take of eagles. However, other Tribes and Pueblos may find benefit from the general support of this ceremonial traditional use.

Cumulative Impacts

Other past, present, and reasonably foreseeable future actions that have or will impact ethnographic resources would be the same as those described for the no-action alternative. When the incremental impacts of alternative 2 are added to the impacts of other past, present, and reasonably foreseeable future actions, cumulative impacts would be both beneficial and adverse. The direct and indirect impacts of alternative 2 would provide meaningful beneficial impacts to the cultural values of the Eagle Society of the Pueblo of Jemez, and adverse impacts to cultural values of other affiliated Tribes and Pueblos.

Conclusion

Allowing the Eagle Society of the Pueblo of Jemez to take up to four eagles within the park would result in meaningful beneficial impacts to ethnographic resources because the Eagle Society of the Pueblo of Jemez would have opportunity to conduct all elements of their ceremonial practice within the park. Alternative 2 could also result in beneficial impacts to cultural values of other Tribes and Pueblos Tribes and Pueblos who may find benefit from the general support of traditional uses within the park. However, alternative 2 would result in adverse impacts to cultural values of other Tribes and Pueblos that do not support ceremonial take of eagles.

Environmental Consequences of the Alternative 3 (Proposed Action): Take of Up to One Bald or Golden Eagle in Compliance with USFWS Take Permit #MB72632A

Under alternative 3, the NPS would authorize the Eagle Society of the Pueblo of Jemez to take one adult bald eagle or one golden eagle in compliance with the terms of U.S. Fish and Wildlife Service permit # MB72632A. The nature of impacts to ethnographic resources would be the same as described under alternative 2; however, there would be both beneficial impacts and the potential for adverse impacts to the Eagle Society of the Pueblo of Jemez. Alternative 3 would result in beneficial impacts to cultural values of the Eagle Society of the Pueblo of Jemez because they would have opportunity to conduct all elements of their ceremonial practice within the park, whether successful in taking an eagle or not. There could be adverse impacts to cultural values of the Eagle Society of the Pueblo of Jemez in the event they are successful in taking one eagle and would want the opportunity to take additional eagles for use during their ceremonial practice. In that event, the restriction allowing take of only one eagle would result in adverse impacts by placing limitations on the ceremonial practice of the Eagle Society of the Pueblo of Jemez.

As is discussed under alternative 2, cultural values of other Pueblos and Tribes that do not support ceremonial take of eagles would be adversely affected by take of one eagle but may find benefit from the general support of traditional use.

Cumulative Impacts

Other past, present, and reasonably foreseeable future actions that have or will impact ethnographic resources would be the same as those described for the no-action alternative. When the incremental impacts of alternative 3 are added to the impacts of other past, present, and reasonably foreseeable future actions, cumulative impacts would be both beneficial and adverse. The direct and indirect impacts of alternative 3 would provide both beneficial and adverse impacts to cultural values of the Eagle Society of the Pueblo of Jemez, and other affiliated Tribes and Pueblos.

Conclusion

Allowing the Eagle Society of the Pueblo of Jemez to take up to one eagle in the park would result in beneficial impacts because the Eagle Society of the Pueblo of Jemez would have opportunity to conduct all elements of their ceremonial practice within the park. However, limiting take to one eagle could result in restrictions on their ceremonial practice. Alternative 3 would result in adverse impacts to cultural values of other Tribes and Pueblos that do not support ceremonial take of eagles and could also result in beneficial impacts to cultural values of other Tribes and Pueblos who may find benefit from the general support of traditional uses within the park. Overall, the intensity of both the beneficial and adverse impacts under alternative 3 would be lower than under alternative 2.

CHAPTER 4: AGENCIES AND PERSONS CONSULTED

Personnel from the NPS Washington Office, Intermountain Regional Office, Valles Caldera National Preserve, and the U.S. Fish and Wildlife Service were consulted during preparation of this EA.

Issuance of the take permit by the U.S. Fish and Wildlife Service was done in compliance with the 2016 *Programmatic Environmental Impact Statement for the Eagle Rule Revision*. The U.S. Fish and Wildlife Service routinely consults and coordinates with Native American Tribes and Pueblos and state and federal agencies in the Southwest Region regarding bald eagle and golden eagle conservation issues. During the past 10 years, U.S. Fish and Wildlife Service staff met with representatives of the Hopi Tribe, Navajo Nation, Pueblo of Jemez, and Jicarilla Apache Nation, National Park Service, U.S. Forest Service, Valles Caldera National Preserve, New Mexico Department of Game and Fish, and Arizona Game and Fish Department to discuss take of eagles by Native Americans for religious purposes (USFWS 2023b).

REFERENCES CITED

Cornell Lab of Ornithology eBird (eBird)

- 2023 eBird project. Accessed to review eagle sightings within Valles Caldera National Preserve. Accessed October 2023. Available online at: <https://ebird.org/home>

Dunk, Jeffrey R, Brian Woodbridge, Todd M. Lickfett, Geoffrey Bedrosian, Barry R. Noon, David W. LaPlante, Jessi L. Brown, Jason D. Tack (Dunk et al.)

- 2019 Modeling spatial variation in density of golden eagle nest sites in the western United States. PLoS ONE 14(9): e0223143. Available at <https://ecos.fws.gov/ServCat/DownloadFile/168033>

Johnson, Terrell H.

- 2003 2002 Bald Eagle Surveys in the Valles Caldera National Preserve. Funded by Valles Caldera Trust. September.
- 2007 2006 Bald Eagle Monitoring in the Valles Caldera National Preserve. Funded by Valles Caldera Trust, Contract 07-C-VCT-005. August.

National Park Service (NPS)

- 2014 Replace Frijoles Canyon Section of Primary and Secondary Electrical Systems Environmental Assessment. Bandelier National Monument. May.
- 2017 VALL Draft Report for Internal Review – April 27, 2017. Golden Eagle (*Aquila chrysaetos*) and Bald Eagle (*Haliaeetus leucocephalus*) Surveys of the Valles Caldera National Preserve – 2014-2016. Mark A. Peyton, Ruth Passernig, and Erin Duvuvuei.
- 2018 Foundation Document. Valles Caldera National Preserve, New Mexico. March.
- 2022 Draft Natural Resource Conditions at Valles Caldera National Preserve: Findings & Management Considerations for Selected Resources. Jeff Albright, Kim Struthers, Lisa Baril, and Mark Brunson. National Park Service, Fort Collins, Colorado. Utah State University, Logan, Utah.
- 2023 Special Use Permit #23-282. Valles Caldera National Preserve. Issued to Pueblo of Jemez on October 12, 2023.

Sauer, J. R., D. K. Niven, J. E. Hines, D. J. Ziolkowski, Jr, K. L. Pardieck, J. E. Fallon, and W. A. Link.

- 2019 The North American Breeding Bird Survey, Results and Analysis 1966 - 2019. Version 2.07.2019 USGS Patuxent Wildlife Research Center, Laurel, MD. Accessed October 2023. Available at: <https://www.mbrpwrc.usgs.gov/>.

United States Department of the Interior Fish and Wildlife Service (USFWS)

- 2009 Final Environmental Assessment. Proposal to permit take as provided under the Bald and Golden Eagle Protection Act. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Washington, DC USA.
- 2013 Environmental assessment of issuance of a Bald and Golden Eagle Protection Act permit to take

- Golden Eagles by the Hopi Tribe for Native American Religious Purposes, April 23, 2013. U.S. Fish and Wildlife Service - Southwest Region, Albuquerque, New Mexico USA.
- 2016a Programmatic Environmental Impact Statement for the Eagle Rule Revision. December. Available online at: <https://www.fws.gov/sites/default/files/documents/programmatic-environmental-impact-statement-permits-to-incidentally-take-eagles.pdf>
- 2016b Bald and Golden Eagles: Population demographics and estimation of sustainable take in the United States, 2016 update. Division of Migratory Bird Management. Washington D.C. Available online at: <http://www.fws.gov/migratorybirds/pdf/management/EagleRuleRevisions-StatusReport.pdf>
- 2023a Golden Eagle. Overview from USFWS Focus. Accessed October 2023. Available online at <https://www.fws.gov/species/golden-eagle-aquila-chrysaetos>
- 2023b U.S. Fish and Wildlife Service Southwest Region Division of Migratory Birds Environmental Action Statement for the Reissuance of a Permit to the Pueblo of Jemez to take Bald Eagles and Golden Eagles for Religious Purposes during 2022-2023. 14 November.
- 2023c Golden Eagle Science in the West. Accessed on October 14, 2023. Available at: <https://www.fws.gov/project/golden-eagle-science-west#Breeding>

Valles Caldera Trust

- 2014 Landscape Restoration & Stewardship Plan – Final Environmental Impact Statement. Sandoval and Rio Arriba Counties, State of New Mexico. June.