

# Finding of No Significant Impact

## Bear Gulch Cave Management Plan

### Pinnacles NM

**Summary:** Bear Gulch Cave is a primary visitor attraction, an important cultural resource, and home to a colony of Townsend's Big-eared Bats (*Corynorhinus townsendii*) (TBB), a California Species of Special Concern. The colony was discovered in 1997 and upon the recommendation of several bat biologists the cave was closed to public access. A four year study was initiated in 1998 to evaluate bat usage of the cave and to determine whether it would be possible to allow visitor use of the cave while protecting this bat species. Bear Gulch cave is critical not only to the survival of this bat colony, but potentially to the continued existence of the entire species. The protection of the caves for scientific and scenic values is specifically mentioned in Pinnacles National Monument's (PNM) enabling legislation of 1908.

The study of the bats and caves in PNM has provided data which park management has used in developing this management plan. Biological data indicates that the entire cave cannot be opened for full-year visitor use without having negative impacts on TBB, but it suggests that year round exclusion of visitors may not be needed to protect this colony. The study documented which portions of the cave the bats use during different seasons. The discovery that TBB stay in this cave year round is unusual. Typically bats like warm caves for raising young and cold caves for hibernation. Due to the unique airflow and microclimates in Bear Gulch Cave, it is one of the few caves with preferred conditions for both maternity and hibernation. Other caves in PNM do not have this unique temperature regime.

**Purpose & Need:** The purposes of the proposed management plan are to protect the colony of Townsend's Big-eared Bats within Bear Gulch Cave, preserve the cultural resources in the cave (in terms of any installations or other management actions taken), and provide managed visitor access to Bear Gulch Cave. The needs are to continue with the established monitoring protocol to further develop the scientific database upon which management decisions for Bear Gulch Cave depend; monitoring protocols will also identify criteria that will allow visitor use of the cave and signal when visitor access of the cave needs to be curtailed.

#### **Selected Action – Alternative D-Combined Access**

The National Park Service will implement Alternative D – Combined Access. This alternative avoids or minimizes impacts to the cave, wildlife, geology and plants while allowing visitor access to Bear Gulch Cave. Visitor access would be prohibited from May 15<sup>th</sup> through July 15<sup>th</sup> (8 weeks) when the maternity colony is using the lower portion of the cave for colony clustering and pupping, the most sensitive time in the bats' annual cycle. July 15<sup>th</sup> through May 15<sup>th</sup> visitor access will be permitted to the lower 2/3 of the cave (44 weeks). Unrestricted cave access would be available 1-4 weeks in mid spring (March) and 1-4 weeks mid fall (October), transition periods when the bats' use of the cave is minimal.

To ensure protection of the bats, this alternative requires that gates be installed at 2 locations and a 200 foot section of trail constructed. One gate would be on the north side of the Robber's Room to prevent access to the upper 1/3 of the cave. The second gate would be a side gate

leading out of the cave to a new trail segment and would close access to the lower portion of the cave during the maternity season. The new trail would connect into the Moses Spring Trail just below the Monolith, would be approximately 200 feet long and would require minimum brush clearing and soil disturbance. Inside the cave, the trail would need a section of grate to provide a floor across a small crevice and a small set of stairs to exit the cave. The gates and grate flooring would require drilling holes into rocks, but would not require any change in the historical trail structures. There is a one-time cost of \$45,000 to construct the new gates and trail section. The cave will only be opened during the transition times in March and October until funding is secured to complete the gates and trail work.

The bolting of the gates into the rock has the potential to affect the long-term weathering of the rocks. The construction of the gates would be in the stream channel. These gates have the potential of affecting high water flows possibly causing debris jams. To mitigate for these potential impacts, any bolts placed into the rock would be completely sealed with epoxy, preventing the possibility of water entering the rock via the drilled holes. The gates will have hinged lower portions that would allow them to be raised during high water to allow debris to pass. After each high water event, PNM staff would enter the cave and clear any debris from the gate (moving it to the downstream side of the gate). Design and placement of the gates has been done in such a way as to minimize the visual intrusion of structures into the historic viewshed within the chamber and will not affect the historic handrails. At the 2 points where the gates would be constructed, the trail bed is concrete; holes will be drilled into the trail bed to secure the gate and sealed with epoxy to prevent deterioration.

Park biologists will continue to monitor bat activity in the cave. The new data will be compared to the baseline data collected over the past 4 years. If the new data indicates that the bats are not affected by visitor use, this alternative will continue to be implemented fully as proposed. If the new data indicates that the bats are disturbed by human activity, the visitor access will be decreased (and possibly stopped) until the bats behave as they did during the 4-year study period. Bat disturbance would be defined by changes in roost locations, decreases in bat numbers, and increases in bat activity (especially during the daylight hours).

**Other Alternatives Considered** - Four additional alternatives were identified and analyzed in the Environmental Assessment.

*Element Common to all action alts* - Continued closure of the cave for another 3-4 year study to gain more information on the bats and their use of the cave was suggested during scoping. However, closure would not meet the expressed purpose and need. As all alternatives except the No Action alternative include continued monitoring of the bats and allow for cave closure if negative impact to the bats is determined, this option was considered as included in all the management alternatives.

Alternative A – No action. There would be no change in existing management. This would return the cave to its historic year round visitor access of the entire cave system. Data collected during the 4 year closure indicates that this alternative would negatively impact the TBB colony. Allowing people full year round access of the cave would push bats into areas of the cave with sub-optimal temperature ranges. This action would lead to a decline in the colony size, threaten the colony's continued existence as well as the species long-term existence and is not supported by NPS mandates, laws and policies. No gates or new trail sections would be needed.

Alternative B – This alternative allows visitors full access to the cave for very short periods (1-4 weeks) during each of the transition periods in March and October. This option would require a park biologist to monitor the cave, determine when the bat colony is in transition and open/close the cave. Given so short an opening period, there is concern that the cave would be inundated with visitors during open access periods. A large increase in visitors in such a confined space would negatively impact the visitor’s caving experience, create potentially unsafe visitor conditions, and would potentially have negative impacts on cave resources other than the bats. No gates or new trail sections would be needed. The TBB colony would be protected.

Alternative C – This alternative allows visitor access only to the lower 2/3 of Bear Gulch Cave for the majority of the year, July 15<sup>th</sup> through May 15<sup>th</sup> (44 weeks). The entire cave would be closed May 15<sup>th</sup> through July 15<sup>th</sup> for the maternity colony use of the lower portion of the cave for clustering and pupping. This alternative would allow no access to the upper portion of the cave which is historically a favorite visitor site. This alternative would require the construction of 2 new gates and a new section of trail as described in the **Selected Action** section. A one time funding cost of \$45,000 would be required to implement this alternative. The TBB colony would be protected.

Alternative E – This alternative would close the Bear Gulch Cave to visitor use indefinitely. Park biologists would continue to monitor the bat colony for health and activity. This alternative precludes the visitor experience of important cultural aspects of PNM. No construction would be required for this alternative. The TBB colony would be protected.

Alternatives Considered and Rejected (brought up at public scoping sessions):

- Use of ranger-led guided tours. Dismissed as most people expressed the sentiment that PNM is one of the few places where visitors can experience a cave on their own time schedule with their own sense of adventure. Also dismissed due to staffing requirements to implement such an option (4 additional ranger positions).
- Variety of educational opportunities such as cameras in the cave to allow remote viewing of the bat colony, virtual tours of the cave via the web or CD, bat viewing opportunities at dusk. While much interest was expressed in these options, the public made it clear that these would not serve as a replacement for an actual visit.

### **Environmentally Preferred Alternative**

Alternative E closes Bear Gulch cave to all visitor access, thereby offering the greatest protection to the bats making it the environmentally preferred alternative. This leaves the Balconies Cave as the only caving experience in the park. During the four year closure of the Bear Gulch Cave, the Balconies Caves experienced a significant increase in visitor use of the cave. It is likely that visitor enjoyment has diminished due to the volumes of people using the cave. Staff has reported up to a 20 minute wait to enter the cave and 30-40 people at a time traversing through the cave.

### **Basis for the Decision**

As stated the purposes are to provide long-term protection for this colony of Townsend’s Big-eared Bats within Bear Gulch Cave, protection and preservation of culturally sensitive landscapes and unique ecosystems within the cave, and provide managed visitor access to the cave. Alternative D is the alternative that meets these purposes most effectively. While the

environmentally preferred Alternative E would meet two of the purposes it fails to provide any opportunity for visitor access. Alternative D provides the greatest opportunity for access to a favorite visitor resource while maintaining a sustainable environment for the bats.

Protection of TBB health, roost locations and colony are necessary for species survival. Alternative D causes Pinnacles managers to implement best available management practices for bat conservation and protection. Protocols are well defined and will give managers valuable information on the species furthering scientific knowledge and allowing for continued improvement of management practices.

Historic visitor use patterns are restored on management terms. Full implementation of Alternative D is contingent on construction of 2 gates and a short section of trail. Until such time as construction is funded, visitor access to Bear Gulch Cave will be restricted to 1-4 weeks in March and October when the bats are not present in the cave. The gates will be designed and installed in a manner consistent with historical preservation standards to maintain the integrity of the cultural resource.

**Mitigations**

The mitigations for Alternative D include ongoing monitoring to ensure health of the bat colony and continue to gather information on the unique usage TBB exhibits at Bear Gulch Cave. Also included in this proposed alternative is increased and expanded public education of bat ecology which will accompany the opening and closing of the caves at various times of the year to coincide with the bats maternity and hibernation cycles. Refinement of long-term special species/human species compatibility protocols which will establish baselines for future management needs both for TBB and other specially designated species. This alternative will also provide unrestricted visitor access to cave cultural resources 1-4 weeks in March and again in October.

**Impact/Mitigation Matrix**

Impact Issues	Potential Impacts	Mitigation	Responsible Party
Special Status Species	Decline in bat population due to human disturbance. Potential impairment of the colony affecting survivability of species	Continue monitoring bats to assess potential impacts, reduce visitor access if impact found	NPS-PINN Resource Mgmt Staff
Cultural Resources	Bolting into trail tread required. Gate designed to not affect historic handrail. Visual affect due to new gate	Design will not require attachment to existing historical railings. Bolting into trail tread is in concrete in this section and will be epoxied. Holes drilled for bolts will be epoxied. Project will be in compliance with the National Historic Preservation Act. Gates placed to minimize the visual intrusion into historic view shed	NPS-PINN Maintenance Trails Staff and Contractor
Visitor Recreation Use and Experience	No access to traditionally accessible Monument resource	Visitor access of entire cave 2-8 weeks, access to lower portion for 44 weeks each year, cave closed for 8 weeks each year, potentially more depending on biological monitoring	NPS-PINN Resource Mgmt Staff and Rangers

Geologic Resources: Rocks and Streams	Gates will require bolting into rocks, potential changing of rock weathering. Gates potentially affect high water flow. Construction sediment deposits in stream and possibly first winter while trail stabilizes.	Holes will be epoxied. Gates are designed with a hinge on the lower portion which will be raised during high water. After each high-water event, PNM staff will clear debris from gate moving it to the downstream side of the gate. Erosion controls such as waddles or curlex would be used to contain sediment on site. Trail would be constructed to Class III wilderness trail standards which minimize the amount of soil disturbance thus minimizing sedimentation potential. In-stream work would be done during low or no flow periods (Sept. 1-Oct. 30).	NPS-PINN Maintenance Trails Staff. Gates will be built and installed by contractor in conjunction with NPS. Debris removal will be managed by NPS-PINN Resource Mgmt Staff.
Unique Ecosystems (Caves)	No access to traditionally accessible Monument resource	Two new gates installed in cave to designate protected areas, opening and closing of gates to protect TBB during sensitive cycles. Gate design will not effect air flow of cave nor movement of species within cave.	NPS-PINN Resource Mgmt Staff
Vegetation	Remove 6 bushes (holly leaf cherry) and 1 tree (coast live oak < 6 in dia.)	Trail aligned to minimize impact	NPS-PINN Maintenance Trails Staff
Wilderness	No impact	N/A	N/A
Water Quality	New trail construction may generate sediment in the stream in the first year following construction	Erosion controls such as waddles or curlex would be used to contain sediment on site. Trail would be constructed to Class III wilderness trail standards which minimize the amount of soil disturbance thus minimizing sedimentation potential. In-stream work would be done during low or no flow periods (Sept. 1-Oct. 30).	NPS-PINN Maintenance Trails Staff
Cumulative Effects	Potential decline in TBB population viability throughout Central Calif.	Monitoring TBB for visitor impact disturbance and reducing visitor access until balance is restored	NPS-PINN Resources Mgmt Staff

### **Public Review and Consultation**

Issues and concerns affecting this proposal were identified from a series of public scoping meetings held in 6 different cities during February and March 2001, past NPS planning efforts, communications with interested groups, and input from state and other federal agencies. Issues raised by the public centered on the desire to retain access to the cave and an interest in protecting the bats.

A notice of availability for the EA was mailed to 125 members of the public in November 2002, including local media and local, state and federal agencies. Approximately 20 copies of the EA were mailed out and/or made available to local libraries on both sides of the Monument at the

same time. The EA was also posted on the PNM website. The EA was available for public comment from November 22, 2002 until January 3, 2003, allowing for a 45 day review period to accommodate the holidays. The public hearing was December 18, 2002. Ten comments were received, eight written and two at the public hearing. Comments received at the public hearing supported continued closure of the cave and additional research. The written comments received suggested phasing the gates and the people, doing one at a time. Due to the need to secure funding for the gates and trail work, this will happen as part of the selected alternative. The cave would be open only during the transition times in March and October until the gates and trail work are completed. One supported the no action alternative.

**Impairment**

No project is allowed to impair National Park resources or values in keeping with the National Park Service Organic Act of 1916. Alternative D, the selected alternative, contains elements with the potential to have long-term minor impacts that are limited in context. National Park Service resources and values will not be impaired by implementing any portion of this project.

**Decision**

Based on the environmental impact analysis as documented in the EA, the capacity of the mitigation measures to reduce or eliminate impacts and with due consideration of public comment and agency reviews, the NPS has determined that the proposed action is not a major federal action having the potential to significantly affect the quality of the human environment. There are no adverse cumulative effects or indirect effects foreseen. Therefore, an environmental impact statement will not be prepared and the proposed action will be implemented subject to the provisions of the mitigation plans described herein.

Recommended by:

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Cicely A. Muldoon, Superintendent  
Pinnacles National Monument

Date

Approved by:

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Jonathan B. Jarvis, Regional Director  
Pacific West Region

Date

## **ERRATA – Bear Gulch Cave Management Plan**

Pg. 4. second paragraph, delete last sentence. The Monolith is a favorite climbing site situated overhead of the cave area used by bats. Its use was not restricted as part of the closure of Bear Gulch Cave. Consultation with bat specialists indicated that bats can distinguish between threatening and non-threatening noise which has been confirmed onsite. Should future climbing activity show indication of disturbing the bats, closure of impacting routes will be handled in much the same time frame as closure of the cave itself.

Throughout the document, geologic resources include rocks, caves and streams.

Pg.10. first paragraph, approximately half way through, "...provide a floor across a small crevice..."

Pg. 14.seventh paragraph. Comments received indicate that small numbers of Townsend Big-eared Bats have been found in the cave since 1963. The EA based its findings on the assumption that TBB have been occupying the cave for a long period of time and full visitor access was causing a negative cumulative impact to the colony.