



# ASSESSMENT OF ACTIONS HAVING AN EFFECT ON HISTORIC PROPERTIES

## A. DESCRIPTION OF UNDERTAKING

1. **Park:** Denali National Park and Preserve

### 2. Project Description:

**Project Name:** Assessing the Effects of Traffic (and No Traffic) on the Behavior and Viewability of Grizzly Bears (2023-2026)

**Prepared by:** Phoebe Gilbert    **Date Prepared:** 05/02/2022    **Telephone:** 907-683-9540

**PEPC Project Number:** 109149

#### Locations:

**County, State:** Denali Borough, AK

#### Describe project:

Purpose of Study:

The current road closure west of the Pretty Rocks Landslide presents an opportunity to assess grizzly bears' response to traffic by deploying a before-after-impact (i.e., BACI) study to assess changes in bear movement and habitat use along a 45-mile segment of the Denali Park Road. As of February 2023, a contract to construct a bridge has been awarded and the road is anticipated to open to traffic by 2025. The multi-year closure of the western half of the park road provides an opportunity to study the effects of high traffic volume on grizzly bears, using the same bears in the same area and thus controlling for major confounding effects. The non-traffic "control" period in 2023-24 will be compared to the impact or "treatment" period when high traffic levels resume in 2025-26.

The conservation of, and opportunities to view wildlife were reasons for the creation of Mount McKinley NP in 1916, and for its expansion in 1980. In 1972, park managers restricted private vehicles traffic along the park road to preserve wildlife viewing opportunities during surging visitation. Today Denali's visitors expect to view wildlife from buses; however, despite a history of studying the relationship between traffic and wildlife, park managers know little about how traffic affects wildlife viewing opportunities, behavior or habitat use due to the lack of a no-traffic period for comparison.

The objective of this management-oriented study is to:

1. Determine whether the natural movement, use of space, and patterns of habitat selection of grizzly bears are disrupted or change due to vehicle traffic on the park road. through:

- A quantitative analysis of spatial and temporal movements of grizzly bears using GPS collars and
- An assessment of daily and seasonal movements of grizzly bears in relation to road traffic on the Denali Park Road.

Background:

In 2006, to examine potential impacts of Park Road traffic on wildlife movements and distribution, researchers deployed GPS collars on 20 Dall's sheep and 20 grizzly bears within the road corridor. Location information and movement paths of collared animals were modeled with habitat and traffic data to determine possible relationships between vehicles on the Park Road and wildlife behavior. The Denali Vehicle Management Plan (2012) used information from the 2006 wildlife study along with other data to identify a vehicle management alternative that would benefit wildlife and wildlife habitat from actions such as comprehensive monitoring programs and adaptive management measures (e.g., use of indicators and standards and a BACI study) and reductions in private vehicle use. The 2023-2026 study will enhance the 2006 study to

further check and refine traffic model assumptions and inform future vehicle management measures. See the park webpage for more information about the 2006 and earlier studies: <https://www.nps.gov/dena/learn/nature/denali-park-road-capacity-study.htm>

The study will be focused on bear behavior and movement along the Denali Park Road Corridor. Ideally, there will be two years of the study with no traffic on the west end of the park (mile 42-77) and there will be 2 years of the study with traffic west of mile 42 once the bridge over the landslide is completed. There will also be an eastern study area in the portion of the road open to traffic (mile 32-42) that can also serve as a comparison area for bear behavior in the presence of traffic under similar environmental conditions.

#### Methods

We will collect the following data for this study: ground-based behavioral observations, GPS collar movement data, and data on the phenology of common bear forage types.

Proposed capture and associated road closure dates for the bear study in 2023 are May 15-19 for the eastern study area including backcountry unit 29 (west of the Teklanika River), 31, 31, 6 (west of the Teklanika River), 7, and 8. Capture operations will occur during the beginning of the closure (May 15-16) with additional days of road closure to allow for sedated bears to recover. From June 5-9, all areas west of Polychrome will be closed to hikers, including backcountry units 8,9,10,11,12,13,14,18,19,31,32,33,34,35,36. Capture will occur June 5-6 (updated dates) with additional days of closure to allow for recovery of sedated bears.

The capture and collaring will be replicated in year 3 of the study to a) replace collars on existing bears that remained in the study area and b) add additional collars to replace any bears that died while in the sample or moved outside of the study area. Additional capture dates and dates of closure will be finalized in early FY 25.

At the end of the study in September of year 4, radio collars remaining on study bears will automatically release from the bears and be retrieved by hiking into locations or by helicopter if locations are too far to access from the park road.

During the study duration (years 1-4), fixed-wing radio-tracking flights will occur monthly (April - Oct) 2023-2026 and will co-occur with ongoing wolf tracking flights.

Summary of proposed field methods and activities:

1. Grizzly bears will be captured by aerial methods and instrumented with satellite tracking collars. Biological samples will be collected at the time of capture (hair, skin plugs, blood). Biological measurements will also be made at the time of capture.
2. Scat and hair samples will be collected throughout the study using non-invasive and opportunistic methods.
3. Remote cameras could be deployed along the park road and adjacent trails.
4. Field observations of grizzly bear behavior will be conducted along the park road
5. Plant phenology and berry abundance index data collection along roadside bear habitat

Location: Capture activities will occur within 10 miles of the park road. Hair, scat, and photograph collection will occur within 100 feet of the park road.

Access Method: Access for capture activities will occur via both fixed-wing and rotor-wing aircraft. Access methods for other research activities will include, flying from INR to Kantishna. Driving the park road in GOV vehicles and hiking on the park road.

Collect Specimen: No

**Area of potential effects (as defined in 36 CFR 800.16[d])**

The proposed activities will occur west of the Polychrome landslide

**3. Has the area of potential effects been surveyed to identify historic properties?**

No

Yes

Source or reference:

**4. Potentially Affected Resource(s):**

**Archeological Resources Present:** No

**Archeological Resources Notes:** The Park Road is a historic district and a cultural landscape.

**Historical Structures/Resources Present:** Yes

**Cultural Landscapes Present:** Yes

**Cultural Landscapes Notes:** The Park Road is a historic district and a cultural landscape.

**Ethnographic Resources Present:** No

**5. The proposed action will: (check as many as apply)**

Destroy, remove, or alter features/elements from a historic structure

Replace historic features/elements in kind

Add non-historic features/elements to a historic structure

Alter or remove features/elements of a historic setting or environment (inc. terrain)

Add non-historic features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape

Disturb, destroy, or make archeological resources inaccessible

Disturb, destroy, or make ethnographic resources inaccessible

Potentially affect presently unidentified cultural resources

Begin or contribute to deterioration of historic features, terrain, setting, landscape elements, or archeological or ethnographic resources

Involve a real property transaction (exchange, sale, or lease of land or structures)

Other (please specify): \_\_\_\_\_

**6. Supporting Study Data:**

(Attach if feasible; if action is in a plan, EA or EIS, give name and project or page number.)

**B. REVIEWS BY CULTURAL RESOURCE SPECIALISTS**

The park 106 coordinator requested review by the park's cultural resource specialist/advisors as indicated by check-off boxes or as follows:

\_\_\_\_\_

**106 Advisor**

**Name:** Phoebe Gilbert

**Date:** 04/17/2023

**Check if project does not involve ground disturbance**

**Assessment of Effect:** \_\_\_No Potential to Cause Effect    No Historic Properties Affected    \_\_\_No Adverse Effect    \_\_\_Adverse Effect    Streamlined Review

**Recommendations for conditions or stipulations:**

**Doc Method:** Streamlined Review (PA)

**Streamlined Activity:**

- 8. Installation of Environmental Monitoring Units
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**No Reviews From:** Curator, Archeologist, Historical Architect, Historian, Other Advisor, Anthropologist, Historical Landscape Architect

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### C. PARK SECTION 106 COORDINATOR'S REVIEW AND RECOMMENDATIONS

#### 1. Assessment of Effect:

- No Potential to Cause Effects
- No Historic Properties Affected
- No Adverse Effect
- Adverse Effect

#### 2. Documentation Method:

**A. Standard 36 CFR Part 800 Consultation**

Further consultation under 36 CFR Part 800 is needed.

**B. Streamlined Review Under the 2008 Servicewide Programmatic Agreement (PA)**

The above action meets all conditions for a streamlined review under section III of the 2008 Servicewide PA for Section 106 compliance.

#### **Applicable Streamlined Review Criteria**

(Specify 1-16 of the list of streamlined review criteria.)

8. Installation of Environmental Monitoring Units.

**C. Undertaking Related to Park Specific or Another Agreement**

The proposed undertaking is covered for Section 106 purposes under another document such as a park, region or statewide agreement established in accord with 36 CFR 800.7 or 36 CFR 800.14.

**D. Combined NEPA/NHPA Process**

Process and documentation required for the preparation of an EA/FONSI or an EIS/ROD to comply with Section 106 is in accord with 36 CFR 800.8.c.

**E. Memo to Project File**

#### 3. Consultation Information

**SHPO Required:** No  
**SHPO Sent:**  
**SHPO Received:**

**THPO Required:**  
**THPO Sent:**  
**THPO Received:**

**SHPO/THPO Notes:**

**Advisory Council Participating:** No  
**Advisory Council Notes:**  
**Additional Consulting Parties:** No

**4. Stipulations and Conditions:** Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to avoid or reduce potential adverse effects.

**5. Mitigations/Treatment Measures:** Measures to prevent or minimize loss or impairment of historic/prehistoric properties: (Remember that setting, location, and use may be relevant.)

**Required Mitigations** - For the proposed project actions to be within compliance requirements during construction and/or project implementation, the following mitigations must be adhered to:

- Ensure that this project is communicated to affected staff and visitors.
- Affected backcountry units should be closed to overnight use during and immediately following capture operations for visitor safety.
- When possible and safe, helicopter landings for breaks to relieve the capture crew should be conducted in the Frontcountry Developed Area (non-wilderness areas of the Old Park, including the Park Road when it is closed.)
- Number and location (GPS waypoints) of helicopter landings and number of new ear tags and collars will be reported to the Wilderness Coordinator on an annual basis.

**6. Assessment of Effect Notes:**

**D. RECOMMENDED BY PARK SECTION 106 COORDINATOR:**

**Compliance Specialist:**

**NHPA Specialist**

Phoebe Gilbert      Signature on File      **Date:** 4/17/2023

**E. SUPERINTENDENT'S APPROVAL**

The proposed work conforms to the NPS *Management Policies* and *Cultural Resource Management Guideline*, and I have reviewed and approve the recommendations, stipulations, or conditions noted in Section C of this form.

**Signature**

**Superintendent:**      Signature on File      **Date:** 4/19/2023

Brooke Merrell

